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ABSTRACT

This bibliography is designed to assist planners in the field of institutional health and health support services in gaining access to knowledge that will enhance their efforts to achieve new or expanded arrangements of service sharing. Entries are cross-referenced to as many categories as the material warrants. Case studies that are not annotated are followed by a brief descriptive phrase indicating the name of the shared services organization and/or the area of the country that is the focus of the study. (JD)

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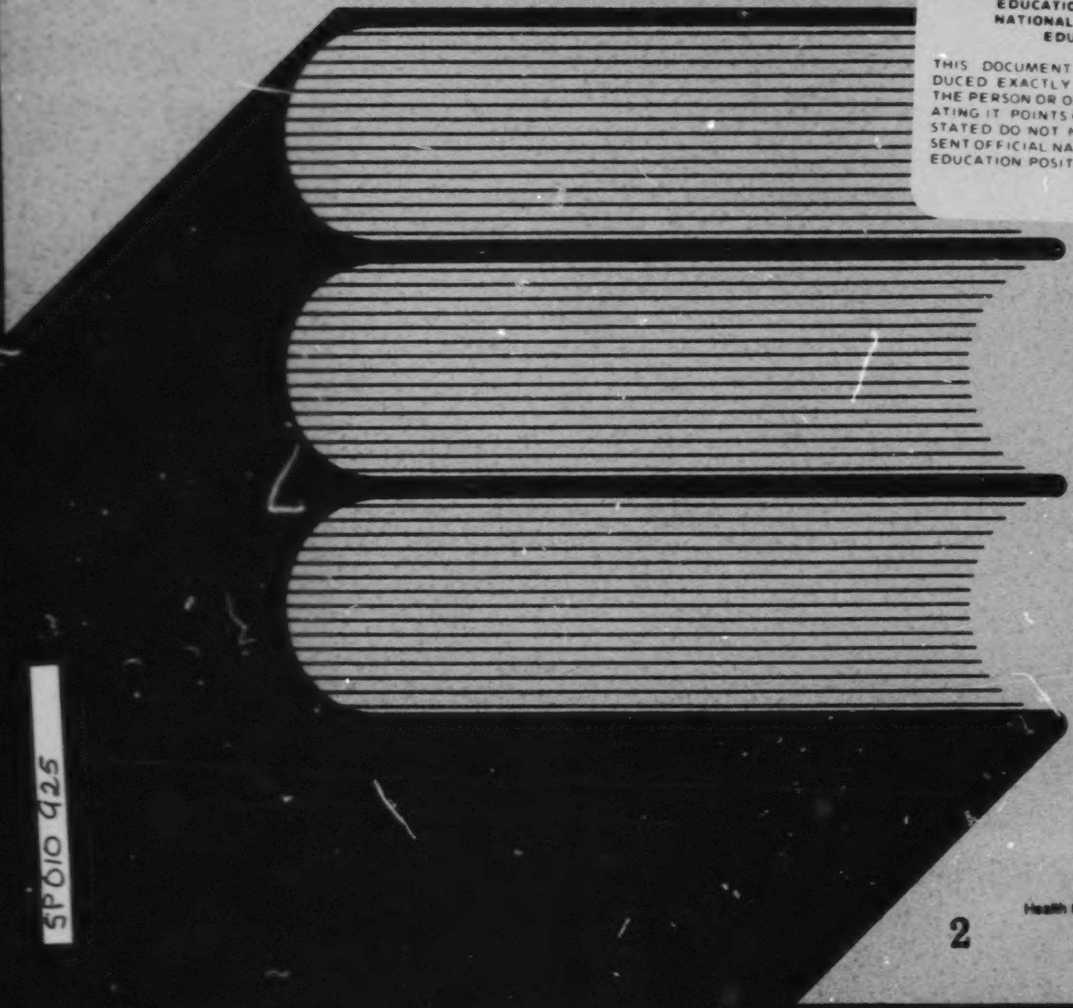

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Services Shared by Health Care Organizations: An Annotated Bibliography

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FOREWORD

There is an increasing interest in and concern with the sharing of institutional health and health support services in this country as a means to increase efficiency and to restrain cost increases. Public Law 93-641, the National Health Planning and Resources Development Act of 1974, established 10 National Health Priorities, of which two address the development of such sharing arrangements.

This bibliography was designed to assist planners at many levels in gaining access to knowledge which will enhance their efforts to achieve new or expanded arrangements of service sharing. While the primary audience is intended to be health planning agencies and institutional planners, other groups associated with shared services may find the bibliography useful.

This annotated bibliography covers the literature on shared services and closely related topics for 1970 to 1975. It was developed for the Bureau of Health Planning and Resources Development, Health Resources Administration, under Contract No. HRA 230-75-0062, by Health Services Research Center of the Hospital Research and Educational Trust and Northwestern University.

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Acting Director, Division of
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Resources Development

PREFACE

The concept of shared services represents a broad topic within the published literature. There are no clear boundaries to the concept, and semantic ambiguity abounds. There are many descriptions of ongoing shared services and many normative statements about ideal ways to share. The different types of arrangements possible within any one given definition of shared services are numerous, and various attempts at surveying the frequency of sharing in different geographic areas have been made. The breadth of the topic of shared services is evident from even a cursory reading of the proceedings of conferences on shared services.

The basic organizing principle of this bibliography is utility to the reader. Entries have been cross-referenced to as many categories as the material warrants. The annotation for an entry is placed in that section where, in the reviewer's judgment, the main focus of the publication lies. The decision may seem arbitrary at times, but the cross-referencing of entries serves to correct potential errors of judgment. Not all entries in the bibliography are annotated. There are two reasons for this: the material in many of the documents may already be covered by other references, or the substance may be tangential to the topic and of limited, specialized interest. It is hoped that the annotations in and of themselves will be educational, but there is no substitute for reading the original documents.

Case studies which are not annotated are followed by a brief descriptive phrase indicating the name of the shared services organization and/or the area of the country which is the focus of the study.

With few exceptions, the references selected for this bibliography have been published in the United States since January 1970. For additional material on shared services, the reader is advised to consult the bibliographies listed on page 15 of the present work.

CONTENTS

Page

- Foreword iii
- Preface iv
- General and Overview Topics 1
  - Semantics: Definitions and Classifications 1
  - Guidelines and General 3
  - Surveys 12
  - Conference Proceedings 14
  - Bibliographies 15
- Specific Services and Facilities 16
  - Medical/Clinical 16
  - Manpower 24
  - Administrative/Supportive 30
    - Accounting and Information Systems 30
    - Central Service 34
    - Dietary 35
    - Equipment 36
    - Laundry 37
    - Library 44
    - Medical Audit and Medical Records 45
    - Purchasing 45
  - Education and Training 49
- Disciplinary Studies 55
  - Tax and Legal 55
  - Organization Behavior 57
  - Economics 60
- Process-Oriented Studies 63
  - Planning 63
  - Feasibility 66
  - Implementation 69
  - Evaluation 71
- Rural and Small Hospitals 73
- Related Pertinent Basics 76
- Index 78

Addendum

GENERAL AND OVERVIEW TOPICS

SEMANTICS: DEFINITIONS AND CLASSIFICATIONS

Shared services in the health delivery arena occupy a middle ground between institutional autonomy and total merger. This section of the bibliography provides a variety of definitions and classification schemes which demonstrate the complexity of the concept of sharing and the lack of concensus concerning the boundaries of shared services.

1. Bailey, D. R. Hospitals can, must influence change. Hospitals, J.A.H.A. 47:55-59, Sept. 1, 1973.
   (Annotation, 17)

2. Clark, W. E. More on semantics. Health Serv. Res. 7:153-154, Summer 1972.

3. ______. The semantics of multihospital aggregations. Health Serv. Res. 6:198-203, Fall 1971.

   Multihospital relationships may be differentiated by geographic pattern or by organizational structure. Physical arrangement alternatives include distributed networks, neighborhoods, campuses, and condominiums. Organizational alternatives include associations, consortiums, federations, and mergers. Certain combinations of organization and physical arrangement are seen as intuitively more appropriate than others. Shared service functions can be replicated, assigned, pooled, or purchased. The organizational and physical implications of the various alternative shared service models are discussed.

4. Cook, H. F. Shared services--complex, but rewarding. Hospitals, J.A.H.A. 47:81-81,86-87, Feb. 1, 1973.

   The author reviews and describes alternative organizational structures for shared services (associations, consortiums, federations, and mergers) and alternative methods of providing services (replication, assignment, pooling, and purchasing). He cites ten principles for developing cooperative programs: "The joint venture should perform services that the individual hospitals cannot do as well or as inexpensively on their own; the goal of the cooperative effort should be to produce increased income, to decrease expenses, and/or to increase the quality or scope of service provided to the community; participation in the project should not freeze hospitals into future conformity to past patterns; the shared service's board of directors must continually maintain meaningful control of the program; the shared service should be economically self-supporting; the project should not effect the sponsor's fiscal independence; participants should enter shared service programs on a voluntary basis only; the medical or other affected staffs of the individual hospitals should be involved as early in the development stage as possible; an organizational structure that best fits the individual program should be designed; the financing mechanism should be suited to the individual project."

5. Davis, R. N. Survey analysis: sharing in New York State. Hosp. Forum (New York). 41:11-12, Mar. 1973.

   Five sharing formats are presented in order of approximate difficulty to achieve: ad hoc purchase, trading, endorsement, association service, and joint venture. Each model is described, the advantages and potential disadvantages of each are noted, and examples are provided.

6. DeVries, R. A. Kellogg's role in fostering shared services. Hospitals, J.A.H.A. 47:86-87, Feb. 1, 1973.
   (Annotation, 33)

7. Health Services Research Center. Guidelines for Health Services Research & Development: Shared Services. Washington, DC: National Center for Health Services Research and Development. DHEW Pub. No. (HRA) 74-3023, 1972.
   (Annotation, 44)

8. Holland, D. C. Legal and tax aspects of shared services. In: American Hospital Association. Shared Services in Health Care Institutions. Chicago: AHA, 1975, pp. 11-16.
   (Annotation, 429)

9. Sabichi, F. D., and Long, T. L. Association serves 17 hospitals. Hospitals, J.A.H.A. 48:101-102, June 1, 1974.

   Midtown Hospital Association of Denver, CO, is a voluntary, not-for-profit corporation currently providing 20 shared services for 17 hospitals. Four types of shared services offered by the Association are described: departmentalized shared services; contracted shared services; coordinated hospital resources; and "status quo services," or feasibility investigations of possible shared services even when existing services are found to be preferable.

10. Starkweather, D. B. Beyond the semantics of multihospital aggregations. Health Serv. Res. 7:58-61, Spring 1972.

11. ______. Health facility mergers: some conceptualizations. Med. Care. 9:468-478, Nov.-Dec. 1971.

    The author uses a number of classification schemes to conceptualize health facility mergers and combinations. The first scheme identifies seven dimensions, each of which can be viewed as a spectrum from pluralism to fusion: organizational patterns, legal bonds, nature of combined services, stages and forms of production, geography of population served, facility location, and organizational impact. From five to eight points are identified for each dimension, representing actual or hypothetical health care facility arrangements. The second scheme emphasizes the dynamics of health facility combinations and the dimension of time. Seventy-two variables are arranged according to five stages of the merging process: pre-existing conditions, initiating forces, enabling factors, dynamics of execution, and stabilization. The schemes are intended to facilitate understanding of the dynamics of health facility inter-organizational relationships.

GUIDELINES AND GENERAL

This section provides a broad overview of shared services including some case studies of shared services programs encompassing a multitude of activities as well as some attempts at synthesizing these experiences into some generally applicable principles. Many of the entries here could have been annotated in other sections. Empirical wisdom is not confined to these references.

12. An alliance for sharing. Hospitals, J.A.H.A. 47:51-53, Dec. 16, 1973. (Rural Health Care Alliance, southeastern Oklahoma and north central Texas)

13. American College of Hospital Administrators. An Examination of Shared Services. Chicago: ACHA, 1974.

In five parts: (1) "Introduction," including a brief discussion of existing pressures for the effective implementation of shared services and a review of the formation of the task force, (2) "Economic principles and the health care industry (with special reference to shared services)," addressing cost factors and economies of scale, considerations of status, prestige and autonomy, and the lack of incentives for lowering cost production, (3) "Answers to pertinent questions about shared services," examining the comparative efficiency of various kinds of shared services, the most effective administrative approaches to sharing, the possibility of defining cost saving expectations for particular types of services, and the comparative efficiency of contracts with investor-owned companies vs. interhospital arrangements, (4) "Case studies," focusing on printing, data processing, central laundry operations, and credit and collection, and (5) "Statement of principles underlying the successful operation of shared services.

14. American Hospital Association. Guidelines for Hospital Involvement in Comprehensive Health Delivery Systems. Chicago: AHA, 1973.

"These guidelines are intended to provide the hospital with a perspective and a process by which it can examine its present service role and the alternatives to that role in relation to changing community needs.... Health delivery systems in the context of these guidelines can be defined from the narrow sense of a sharing of services between hospitals to the broad integration of patients or consumers and health care institutional and professional providers and managers into a single organizational structure providing comprehensive health care services."

15. ______. Shared Services in Health Care Institutions. Chicago: AHA, 1975.

A collection of selected articles and original papers focusing on major issues in shared services. Contents: Association serves 17 hospitals, F. D. Sabichi and T. L. Long; Wide range sharing for two hospitals, J. W. Owen; Legal and tax aspects of shared services, D. C. Holland; The changing anatomy of an academic health center, J. C. Donaher Jr.; Financing shared services programs in a multihospital system, J. A. Skarupa; Cost saving and other measures of shared service effectiveness, P. E. Ludwig.

16. American Hospital Association group to recommend voluntary chains! Mod.

Hosp. 115:108, April 1970.

17. Bailey, D. R. Hospitals can, must influence change. Hospitals, J.A.H.A. 47:55-59, Sept. 1, 1973.

Examines four activities through which administrators can enable hospitals to adapt to and influence imminent changes in the health care system: developing a planning process, meeting community health needs, coordinating regional services, and sharing services. The actions are interdependent and, taken together, form an integrated planning process. Four formal hospital groupings which facilitate regional coordination are described: associations, consortiums, federations and corporations.

18. Bauer, K. G., and Densen, P. M. Some issues in the incentive reimbursement approach to cost containment: an overview. Med. Care Rev. 31:61-100, Jan. 1974.

The authors review existing incentive reimbursement plans and examine the cost effectiveness of each.

19. Bieter, J. T. Four options for cooperation: implications for Catholic hospitals. Hosp. Progr. 51:64-65,101, Mar. 1970.

Four categories of hospitals based on cooperation level are described and evaluated in terms of comparative difficulty to achieve. They are: no cooperation hospitals, administrative cooperation hospitals, cooperatively planned hospitals, and merged hospitals. Catholic hospitals are at a disadvantage in implementing the more complicated types of cooperative arrangements because of their peculiar organizational structure. The distance of a Catholic hospital from its ownership base, the rotation and change of administrators in Catholic hospitals, questions of title to property, religious mission, and the practice of sharing certain services with order hospitals over a wide geographic area all may contribute to the difficulty of forming cooperative arrangements with local non-Catholic hospitals.

20. Blumberg, M. S. Shared Services for Hospitals. Chicago: AHA, 1966.

This report, which is based on a study conducted between July 1963 and June 1964, is one of the most comprehensive early reviews of the status of shared services in U.S. hospitals. Information for the study was obtained by surveys of selected organizations, personal interviews and a literature search. Particular emphasis is placed on defining shared services and on identifying a few specific illustrative examples of each, rather than on collecting and reporting statistical data on the availability of shared services. Shared services are considered in the broadest sense as "any service or product that a hospital purchases or obtains from an outside agency" although major emphasis is placed on shared services which have been established as cooperative ventures and which are not universal. Examples of shared service arrangements are organized in 12 major categories. The report includes a checklist of hospital activities subject to sharing by several hospitals and a 147-item bibliography covering the early literature on hospital shared services.

21. Boone, C. C. Sharing: a way of life. Hosp. Admin. 18:53-60, Spring 1973.

Case study and evaluation of services shared by several North and South Carolina hospitals. Consideration is given to the philosophy behind sharing and its implementation in the areas of shared food services, group purchasing, joint departmental meetings, shared data processing services, and shared industrial engineering services.

22. Borgess and Bronson hospitals make joint effort to increase health care services. Mich. Hosp. 7:17, Aug. 1971.
(Kalamazoo, MI)

23. Boston, J. R., and Edwards, S. A. Hospital mergers: a model for third-party funding. Hosp. Admin. 19:42-48, Summer 1974.

24. Brown, M. H. Current trends in cooperative ventures. Hospitals, J.A.H.A. 48:40-44, June 1, 1974.

25. Central Pennsylvania consortium seeks to fill gaps, avoid duplication. Hospitals, J.A.H.A. 49:95, Jan. 1, 1975.
(Susquehanna Valley (PA) Health Care Consortium)

26. Chicago: shared laundry, purchasing gather steam. Mod. Hosp. 114:104, Apr. 1970.
(Chicago-area shared services arrangements)

27. Citizens League urges hospitals to share services--and they do. Mod. Hosp. 118:39, May 1972.

Hennepin County General and the Metropolitan Medical Center in Minneapolis expect to consolidate over 30 services including pediatrics, obstetrics, newborn intensive care, and emergency services, as well as laundry, dietary, central supply, and power services. The impetus for this cooperative arrangement came at the suggestion of the Citizens League which was studying the proposed separate projects of the neighboring hospitals.

28. Communication lines tie nine rural hospitals into network. Mod. Hosp. 118:93-95, Apr. 1972.

Nine hospitals in southeastern Oklahoma have formed the Southeastern Oklahoma Health Care Alliance to extend the use of health manpower in a rural area and to contain costs. The Alliance accomplished these goals by sharing a number of services including coronary care, blood bank, medical library, speech therapy, nurses aide training, and continuing education for all members of the hospitals' health care teams. The hospitals also cooperate with post-secondary schools in training health manpower. The article includes a detailed description of the use of a teleconference network which is used in continuing education programs for hospital personnel, in patient education, and in emergency assistance.

29. Cook, H. F. Shared services--complex, but rewarding. Hospitals, J.A.H.A. 47:81-82,86-87, Feb. 1, 1973.
(Annotation, 4)

30. Davis, R. N. Survey analysis: sharing in New York State. Hosp. Forum (New York). 41:11-12, Mar. 1973.
(Annotation, 5)

31. Deane Jr., A. S. Consortium achieves mutual goals. Hospitals, J.A.H.A.

48:95-96, June 1, 1974.

Case study of the 13-member West Suburban Hospital Association which serves communities west of Greater Boston. The study includes a list of goals of the association as incorporated in the bylaws and reviews the activities of the Consortium for Information and Training which was developed to serve nurses and allied health personnel of the member hospitals through both library information and continuing education programs. Eight projects currently underway are being coordinated by a part-time director. These projects include the implementation of some shared services, research and feasibility studies of others, and liaison with state and regional health agencies.

32. DeHoff, J. B. Health care consortiums--new roles for local health departments. Amer. J. Public Health. 63:672-674, Aug. 1973. (Baltimore City Health Department)

33. DeVries, R. A. Kellogg's role in fostering shared services. Hospitals, J.A.H.A. 47:86-87, Feb. 1, 1973.

Shared services are defined as "those clinical or administrative functions that are common to two or more institutions, that are used jointly or cooperatively by them in some way for the purpose of improving service and/or effecting economies of scale, and that hold all participating parties at risk in the sharing venture." The foundation favors investments in shared services models for five major reasons: "these models may lead to new delivery forms; they may aid in the control and containment of costs; they may directly improve care to patients; Kellogg assistance may mean the difference between launching a project with federal aid or not; and, finally, new and experimental models might not be launched were it not for private philanghropy."

34. Doody, M. F. Guidelines for implementing cooperative programs. Hospitals, J.A.H.A. 48:55-58, June 1, 1974.

Examines health services consortiums, corporate consolidations and mergers, multihospital systems, and health maintenance organizations as responses to both internal and external pressure to control health care costs and to increase service capabilities. The author offers observations about the future of cooperative programs and lists ten principles useful for achieving cooperative programs.

35. ______. Shared services and the Association. Newsletter Hosp. Manage. Systems Soc. 12:4-5, Nov.-Dec. 1973.

Describes the functions and activities of the Division of Health Delivery Systems which was established by the American Hospital Association within the Bureau of Management and Planning Services in October 1972.

36. Dunn, D. W., and Willits, H. M. Through the strength of many. Hospitals, J.A.H.A. 48:99-100, Oct. 1, 1974.

Examines the role of state hospital associations as facilitators of cooperative arrangements, particularly among small and rural hospitals. Examples of shared services arrangements conducted or sponsored by state hospital associations include joint purchasing, collective insurance programs, shared management engineering, centralized accounting, central data collection, insurance programs, manpower recruitment, collective legal services, public relations efforts, and so forth. The authors review various programs of the Iowa Hospital Association.

37. Edwards, S. A., and Astolfi, A. A. An incentive program for shared services. Hosp. Forum (New York). 41:7-8,15, Mar. 1973.

An experimental approach to rationalizing shared and consolidated services is proposed. In accordance with the theory of group incentives, providers implementing cost-effective shared or consolidated services programs would be entitled to receive incentive payments from the federal government that are stipulated in reimbursement contracts for federally financed health care services. The basic structure of the program and its implementation, from initiation of an individual project through project evaluation, is outlined. Primary advantages of the proposed approach are increased possibility of realizing sharing objectives, lucrative return on capital invested by the government, provision of improved and extended services, facilitation of planned growth on a national level, and stimulation of a cooperative union between public and private resources.

38. Four New York hospital presidents form consortium. Hospitals, J.A.H.A. 46:25, Feb. 16, 1972.

The Iroquois Hospital Consortium, Inc. was formed to "foster and encourage cooperation and consultation among hospitals and to improve the quality of hospital service provided for patients." The Consortium plans to sponsor cooperative programs, explore and develop new concepts in health care, and develop new techniques in hospital procedures, administration, and service.

39. Freeman, J. R., and Zaldivar, M. F. A Generalized Model for Planning Shared Health Services (Technical Report no. 4). Gainesville: University of Florida, Health Systems Research Division, 1969.

The author uses four kinds of costs--excess capacity, unit labor, transportation, and change-over--in formulating a decision rule which can be used along with non-monetary criteria to determine the desirability of sharing services.

40. Friedland, M. Detroit: sharing to stay alive and move toward merger. Mod. Hosp. 114:102-104, Apr. 1970.
(Detroit-area shared services arrangements)

41. Goudreau, W. J., and Lowery, G. E. Shared services--a new involvement for hospital administration. Mich. Hosp. 10:4-7,26, Feb. 1974.

A set of monitoring criteria is proposed for use by administrators of individual institutions to assure effective and meaningful involvement in shared service programs. The criteria include drawing up articles of association, designating an operating or management committee, establishing a chart of accounts, preparing an annual budget projection, a monthly financial statement, and an activity report, establishing personnel policies and a personnel budget, deciding on a meeting schedule for the operating committee and a formal communication procedure, arranging for periodic site visits, and preparing an audio-visual presentation for use in explaining the program's operation to appropriate groups in the hospital. Important factors to be considered in implementing each of the criteria are noted.

42. Hartshorn, T. Government incentives for shared services. Pt. 1. Hosp. Manage. 109:74-76, Mar. 1970. Pt. 2. Hosp. Manage. 109:91-92, Apr. 1970.

Describes various governmental incentives for sharing services which were created to promote health services management effectiveness: experimental incentive reimbursement programs, Section 402 of the Social Security Amendments of 1967; Regional Medical Programs, Public Law 89-239; tax-exempt status for shared services organizations, Section 501(e) of the Internal Revenue Code; and the authority of the Medicare Program to limit cost reimbursement to reasonable levels.

43. Health resources association seeks synergy in services. Mod. Hosp. 118:44,46, June 1972.
(North Suburban Association for Health Resources, Chicago's northern suburbs)

44. Health Services Research Center. Guidelines for Health Services Research & Development: Shared Services. Washington, DC: National Center for Health Services Research and Development. DHEW Pub. No. (HRA) 74-3023, 1972.

These technical guidelines are based on a review of current information on shared services and are intended primarily for use by institutions which are interested in initiating or joining a shared service project. Four general categories of shared service organizations are identified including referred, purchased, multiple-sponsored, and regional services; the possible impacts of a shared service on both the institution and the environment are enumerated; and the advantages and disadvantages of shared services programs are examined. The activities involved in developing a shared service are described in detail from the preliminary through the focused analysis and into the implementation stage. A final section of the guidelines is devoted to the evaluation of shared services and includes recommended procedures for evaluation based on financial characteristics and on the comprehensiveness, availability, and acceptance of care.

45. Hospital Association of New York State program for shared services. Hosp. Forum (New York). 41:13-14, Mar. 1973.

46. Kansas City (KS) area hospitals form group purchasing service to combat costs. Amer. Family Physician. 3:169-170, Mar. 1971.
(Kansas City (KS) Area Hospital Association)

47. Lauzen, E. Seattle: hospitals write new formula for central supply. Mod. Hosp. 114:100-102, Apr. 1970.
(Seattle-area shared services arrangements)

48. Lewis, H. L. A togetherness spirit in Connecticut. Mod. Healthcare. 2:25-29, July 1974.

Eight hospitals in the Greater Hartford, Connecticut area have formed the Capital Area Health Consortium "to coordinate and further the healthcare delivery, medical, educational, research, administrative and other activities of its members." The objectives of the Consortium and the obligations of its member hospitals are described and the author notes external environmental factors and events which preceded and promoted the consortium arrangement. The Consortium is in some ways a natural outgrowth of close working relationships which had existed earlier among several of the hospitals in such areas as ambulatory care planning, fund raising, purchasing, and the development of special programs. The Consortium is presently considering exchange of medical staff privileges.

49. Lombardi Jr., T. Comments on shared services. Hosp. Forum (New York). 41:3-4, Mar. 1973.

50. Long, S. D. Two hospitals share administrative services. Hospitals, J.A.H.A. 48:121-122,175, Oct. 1, 1974.
(Shared Services System, Omaha)

51. Lusk, E. J. Regionalization: a framework for control. Hosp. Admin. 20:60-68, Spring 1975.

52. McSwain, B. G. Opinion [largest savings can come from regional management]. Hosp. Financ. Manage. 5:7, Jan. 1975.

The author recommends regionalization of more than 25 functions associated with 5 hospital divisions--nursing, professional services, nonprofessional services, fiscal services, and personnel--as a means of saving money while maintaining institutional identity.

53. Massachusetts Hospital Association. Shared Service Programs. Burlington, MA: Massachusetts Hospital Association, 1972.

Booklet briefly describes the following shared service programs which are available through the Massachusetts Hospital Association: shared computer program, utilization information service, shared microfilming program, manpower information service, systems engineering program, wage and salary program, management development and education program, labor relations program, group tax-deferred annuity program, group life and accidental death and dismemberment program, group long-term disability program, and group liability/workmen's compensation and safety program.

54. Musser, M. J. A public-private consortium. Hospitals, J.A.H.A. 47:35-37, Aug. 16, 1973.

The author proposes cooperative efforts by governmental and private institutions as a partial solution to solving the problems of high costs, maldistribution of services, uneven quality of services, and increasing demand for services. [illegible]en examples of cooperative working relationships which have been established between the Veteran's Administration health care system and community health care services and facilities are described.

55. New federation of hospitals created for Cleveland area. Osteopathic Hosp. 16:22-24, July 1972.
(Federated West Shore Hospital System)

56. Oakland (CA) hospitals save with shared services. Hosp. Forum (Western).

14:18, Sept. 1971.
(Administrative Hospital Services, Inc.)

57. Owen, J. W. Wide-range sharing for two hospitals. *Hospitals, J.A.H.A.* 48:105-107, June 1, 1974.

Case study of the New Jersey Hospital Service Corporation which coordinates group purchasing, printing, and credit and collection for two urban New Jersey hospitals. Shared warehousing, medical record activities, and laundry services may be instituted in the future and the feasibility of several other shared services including a day care center, daily menu planning and food purchasing, a combined security force and motor pool, and shared transportation for faculty and students of the schools of nursing affiliated with each institution are presently under investigation. The purchasing program is described in some detail and steps taken to preserve autonomy, quality, and cost control are outlined. A 120-bed suburban hospital recently joined the program and is participating on an *ad hoc* basis. A network of such programs is envisioned, with each program serving hospitals on a regional basis.

58. Payne, T. T. A multi-hospital model: one alternative to merger. Master's thesis, Xavier University, Cincinnati, 1974.
(Tri-County Hospital Group, Ohio)

59. Performing major surgery on hospital costs. *Bus. Week*. No. 2381:149,152, May 19, 1975.
(Capital Area Health Consortium, Greater Hartford, CT area)

60. Platou, C. N., and Rice, J. A. Multi-hospital holding companies. *Harvard Bus. Rev.* 50:14-18, May-June 1972.

The hospital holding company is an organizational form modeled after the bank holding company with its characteristic advantages of local board autonomy, centralized/decentralized management, and economies of scale. The hospital holding company provides a central locus of control while maintaining community integrity through local directors and managers. Its advantages include economies of scale resulting from superior management and from the centralization of specialized activities, a broadened range of services and facilities for the local health institution resulting from centralized service management and research, and improved capital resources which protect the stability of each local unit. The ownership, local management, board, and central management of the hospital holding company are described and the author notes a variety of expensive or previously unavailable services which the holding company could provide to its member institutions.

61. Project RAISE. *Regional Cooperation: A Design for Sharing among Health Care Institutions*. 1971.

Describes "the concept and practice of regional sharing among health care institutions as developed and utilized by the health care institutions comprising Project RAISE--what such a regional sharing venture can accomplish, for whom it is intended, why it is a viable alternative to the present health delivery system of independently operated health care facilities in many small communities, and finally how other interested health care institutions may establish their own regional sharing ventures."

62. Ross Jr., A., and Boyle Jr., R. L. Urban-rural exchange programs. Hospitals, J.A.H.A. 46:55-59, July 16, 1972.
(Virginia Mason Hospital, Seattle)

63. Sabichi, F. D., and Long, T. L. Association serves 17 hospitals. Hospitals, J.A.H.A. 48:101-102, June 1, 1974.
(Annotation, 9)

64. Schilling, S. W. Cost containment through sharing. Hospitals, J.A.H.A. 49:48-51, Jan. 16, 1975.
(Affiliated Hospital Services, Inc., Minneapolis-St. Paul)

65. Shared services program approved. Hosp. Forum (New York). 38:14, Dec. 1970.
(New York Statewide Shared Services Program)

66. Six hospitals to share their resources, but not medical staffs. Mod. Healthcare. 3:67, Jan. 1975.
(Susquehanna Valley (PA) Health Care Consortium)

67. Starkweather, D. B. Mergers and shared services: annual administrative review. Hospitals, J.A.H.A. 47:67-70, Apr. 1, 1973.

This review of the 1972 literature on mergers and shared services identifies an underlying theme of conflict between fundamental organizational identity and efforts to share services or merge institutions. Other trends in the literature include a return to basic definitions and simple classifications of shared services, a continued questioning of the true value of mergers, a general lack of sound empirical articles, and increased interest in the creation of corporations which span but do not replace existing institutions.

68. Smejda, H. A. Shared services. Hosp. Financ. Manage. 5:10-11,14-15,63, Mar. 1975.

Explores the advantages and disadvantages of shared services, their current and future status, and the implications of shared services for financial managers. Briefly describes the various organizational structures which have developed for providing shared services as well as those factors which have combined to bring pressure on hospitals to share. The author also reviews the progress of a current American Hospital Association project which involves the development of methodologies for health planners to evaluate services shared by health care organizations.

69. Stolfi, J. E. Reducing the cost of medical care. Bull. Amer. Coll. Physicians. 11:140-141, Mar. 1970.

70. Successful multi-unit systems show how shared services can help raise productivity, lower costs. Mod. Hosp. 121:41, 43, July 1973.

71. Tennessee Hospital Association. Shared Services in Review; report to W. K. Kellogg Foundation. Nashville: Tennessee Hospital Association, 1973.

The Tennessee Hospital Association reports briefly on shared services programs which it has sponsored in dietary, medical records, social services, and management engineering. The report also outlines two special projects: a cooperative effort by 17 hospitals to explore shared group purchasing, educational programs, and other services; and a shared computer project through which 28 hospitals have purchased computer time from Blue Cross to handle patient billing, payroll, inventory control, accounts payable, and several other projects.

72. Tibbitts, S. J. What Trustees Should Know About Shared Services and Mergers (Tape cassette, 47 min., 50 sec.). Chicago: Hospital Research and Educational Trust, 1974.

A general discussion in question and answer format which examines the advantages and disadvantages of shared services and mergers, problems of implementation, factors contributing to successful programs, and the role of the trustee.

73. Twenty hospitals form group to establish shared services. Hospitals, J.A.H.A. 45:103, June 16, 1971.
(CINDAY Shared Services Committee, southwestern Ohio and northern Kentucky)

74. Wagner, C. J. Association concept promotes sharing, preserved independence. Hospitals, J.A.H.A. 43:47-50,52, Mar. 16, 1969.

Examines the concept of a multiservice health facility association as a means of coordinating a full range of community health services without the loss of institutional identity which can result from mergers and satellite programs with similar objectives. Characteristics of effective programs achieved through such associations are noted and the necessary formal arrangements are identified. The Multiservice Health Facility Association concept is seen as sufficiently flexible to allow for various kinds of association based on physical proximity, provision of complementary services, uniform standards of care based on comprehensive plan, and so forth.

SURVEYS

75. American Hospital Association. American Hospital Association Guide to the Health Care Field, 1974 edition. Chicago: AHA, 1974.

Shared services organizations are identified in the 1974 Guide in the listing of "State and Provincial Organizations and Agencies," pp. 436-453. The organizations identified include "freestanding shared services organizations sponsored by hospitals or by a hospital association that operates shared services programs for hospitals, shared services programs that are part of a state or metropolitan hospital association, [and] health services consortiums that are formed by several hospitals to plan and facilitate the sharing of services, the consolidation and coordination of clinical-medical services, and the joint planning for future development of services within an identified area." The shared or consolidated programs listed are coded according to 63 shared service categories.

76. Astolfi, A. A., and Matti, L. B. Survey profiles shared services. Hospitals, J.A.H.A. 46:61-65, Sept. 16, 1972.

This article reports the results of a national questionnarie survey of shared services which was submitted to 5,727 short-term community hospitals in the United States in the summer of 1971. Survey results (82.5 percent of the respondents completed the questionnarie) indicate the extent of present sharing arrangements (29,419 instances of sharing reported), satisfaction with these arrangements (70 percent of respondents reporting satisfaction), assessment of the potential for expansion of existing cooperative arrangements (10,111 instances of services considered expandable), and interest in joining with other hospitals to share services (29,890 instances of interest expressed in sharing a service). Responses to each of the questions regarding use, satisfaction, potential, and interest are tabulated by four major service categories: medical facilities and care, manpower resources, administrative and other services, and continuing education and inservice training programs. Tabulated data include a summary of overall responses to the survey, a listing of shared services reported in each of the service categories, a comparison of shared purchasing activities for New York State in 1970 and 1971, and listings of the 10 most frequently shared services and the services eliciting the highest interest in sharing. Survey results strongly suggest the potential of sharing as a major method of delivery of health care services.

77. Blumberg, M. S. Shared Services for Hospitals. Chicago: AHA, 1966. (Annotation, 20)

78. Delaware Valley (PA) hospitals interested in shared services. Mod. Hosp. 115:31, Dec. 1970.

Ninety-four of 96 short-term general hospitals surveyed by the Delaware Regional Medical Program in late 1969 reported having developed some kind of affiliation either to obtain or provide services. Respondents were queried concerning 29 services. Of these services, each hospital had an average of 12 services within the hospital, supplied four services to other hospitals or organizations, was equipped to supply up to six services to other hospitals, obtained six services, and wished to obtain 10 services. The survey covered the Delaware Valley Region but excluded Philadelphia.

79. Denver meeting told: hospitals sharing everything--including the doctors. Mod. Hosp. 119:114,117, Sept. 1972.

This brief report of the Midtown Hospital Association shared services conference includes a list of services shared by organizations reporting to the conference and a profile of 24 shared service organizations represented at the conference. The profile is broken down by number of hospitals participating in the shared services organization, proximity of participating hospitals (close, rural, entire state, two or more states), age of shared service organization, number of employees, source of initial funding, and types of programs shared.

80. Gerber, N. M. Health facilities planning for hospitals in the Passaic Valley Region of New Jersey. Unpublished report, George Washington University, Washington, DC, Dec. 1970.

Study examines the extent and origin of sharing agreements among seven short-term general hospitals in the Passaic Valley Region of New Jersey.

Although sharing was not found to be common in the area, the sharing agreements which were in effect were found to have been initiated more often by councils of local administrators than by the Health Facilities Planning Council.

81. Member hospitals surveyed regarding shared services. Hosp. Forum (New York). 38:10, Sept. 1970.

Brief report of results of a May 1970 survey of members of the Hospital Association of New York State regarding shared services. Nine-hundred and ten instances of sharing were reported; 733 sharing arrangements were regarded as satisfactory; hospitals indicated interest in sharing arrangements in 985 instances; and 159 hospitals indicated that current in-house capabilities could be expanded to share with others. A list of possible sharing arrangements is provided.

CONFERENCE PROCEEDINGS

Published proceedings often provide a reader with a broad exposure to a multitude of issues. While some survey the whole field of shared services, others focus on a narrower subsumed topic. Frequently the presenters at these conferences represent different disciplines--sociology, economics, health care research--as well as operational experience.

82. Brown, R. E., editor. Economies of Scale in the Health Services Industry; proceedings of an invitational seminar, May 10-12, 1971, Chicago. Rockville, MD: National Center for Health Services Research and Development. DHEW Pub. No. (HSM) 73-3009. [Reproduced and distributed by National Technical Information Service, Springfield, VA, 1972].

Partial contents: Marketing research and development: problems posed by the health services market; Hospital associations and economies of scale; Shared services--their production and coordination by hospital associations and their effect on economies of scale; Health systems development and economies of scale; Health services planning and economies of scale; RMP role in the development of economies of scale.

83. Martin, J. C., editor. Evaluation Methodologies for Shared Services in the Health Care Field; proceedings of a seminar, Dec. 2-4, 1974, Montreal. Montreal: Montreal Joint Hospital Institute, 1975.

General presentations: State of the art--Canadian; State of the art--American; Summary of the project--seminar on evaluation methodologies for shared services in the health care field; Feasibility studies for shared and consolidated services; Concepts and strategies of evaluation; Evaluation and economic analysis; Environment for evaluation; Experiences with shared services and approaches to their evaluation. Evaluation methodologies: Laundry; Generalized model; Group purchasing; Inservice education; Management engineering. Reference data: Administrative review of shared and consolidated services, 1973.

84. Midtown Hospital Association. Health Organizations Shared Services; pro-

ceedings of a conference, March 15-17, 1972, Denver, Colorado. Denver: Midtown Hospital Association, 1972.

Contents include: Shared health services--their role and direction, by Robert DeVries and presentations by officials of the following organizations: North Suburban Association for Health Resources, Northbrook, IL; Hospital Shared Services Association, Seattle; New Jersey Hospital Service Corporation, Princeton, NJ; Ohio Hospital Association, Columbus, OH; South Carolina Hospital Association, Columbia, SC; Centralized Hospital Services, Greensburg, PA; Connecticut Hospital Association, New Haven, CT; Midtown Hospital Association, Denver; American Hospital Association, Chicago; Massachusetts Hospital Association, Burlington, MA; Northwest Allegheny Hospital Corporation, Pittsburgh; Western Kentucky Hospital Services, Inc., Madisonville, KY; Idaho Hospital Research and Education Foundation, Inc., Boise, ID; Hospital Association of New York State, Albany, NY; Affiliated Hospital Services, Inc., Minneapolis. Four task force reports examine the future of shared services, the exchange of information among shared service organizations, the legal and legislative considerations facing shared service organizations, and the role of shared service organizations in relation to health care corporations and health maintenance organizations.

85. White, P. E., and Vlasak, G. L., editors. Inter-Organizational Research in Health; conference proceedings, January 1970, New York City. Washington, DC: National Center for Health Services Research and Development, 1970.

Major papers include: Health facility merger and integration: a typology and some hypotheses, D. B. Starkweather; Coordination and inter-organizational relations in health, by B. J. F. Mott; Inter-organizational cooperation: a review and critique of current theory, by W. J. Reid; Alternative strategies of inter-agency planning, by R. L. Warren.

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86. Blumberg, M. S. Shared Services for Hospitals. Chicago: AHA, 1966. (Annotation, 20)

87. Health Services Research Center. A bibliography on mergers and related interorganizational arrangements. In: Health Services Research Center. Demonstration and Evaluation of Integrated Health Care Facilities, Samaritan Health Service, Phoenix, Arizona. Vol. 1. Chicago: Health Services Research Center, June 28, 1972, pp. 243-257.

88. Starkweather, D. B., and Taylor, S. J. Health Facility Mergers and Combinations: An Annotated Bibliography. Chicago: American College of Hospital Administrators, 1970.

89. Tarver, B. M., and Check, M. J. Annotated Bibliography: Shared Services. Denver: Midtown Hospital Association, 1972.

SPECIFIC SERVICES AND FACILITIES

The services, facilities, and resources that have been and can be shared among health care institutions have been divided into four basic categories: (1) medical/clinical services, (2) manpower services, (3) administrative/supportive services, and (4) education and training programs. The reader is reminded that these categories are not rigorous. A shared education program frequently involves the use of some shared manpower, administrative/supportive services generally also contain an educational component, and so forth. The references here have been organized on the basis of the primary emphasis of subject matter. No reference should be viewed as belonging absolutely or exclusively in any one section.

MEDICAL/CLINICAL

90. Aronson, S. M. Toward a state-wide bloodbanking system. Rhode Island Med. J. 57:129-130, Apr. 1974.
(Community Associated Blood Banks of Rhode Island)

91. Bastnagel, Sister G., and others. Hospitals consolidate medical services. Hospitals, J.A.H.A. 47:33-37, July 1, 1973.
(Quadrangle of Metropolitan Northwest and Detroit Hospitals)

92. Baumgartner Jr., R. P. A regional concept of hospital pharmacy services. Amer. J. Hosp. Pharm. 28:670-679, Sept. 1971.

This article describes a regionalized system of hospital pharmacy service. Background information is given on Appalachian Regional Hospitals, a system of nine hospitals with a total of 1,026 beds in the mountain areas of West Virginia, Kentucky, and Virginia. Overall administration and organization of the hospital system is described with particular emphasis placed on pharmaceutical services. The scope and standards of pharmaceutical services and communications among the several hospital pharmacy departments are described. Group purchasing, administration, the prescription division, and warehousing (all functions of Central Pharmaceutical Services) are discussed. The clinical implications of this regionalized system of pharmacy services are explored. (Journal summary)

93. Bilinsky, R. T., and others. Satellite dialysis--an economic approach to the delivery of hemodialysis care. J. Amer. Med. Assn. 218:1809-1813, Dec. 20, 1971.

Case study of Memorial Hospital in Springfield, Illinois which established five satellite hemodialysis centers, each contractually part of the main unit at Memorial Hospital, in private medical buildings and small community hospitals in southern Illinois. Ten specific advantages of the program are listed including care for an increased patient load, reduced travel time, and significant cost savings. Cost-accounting data is provided.

94. Bloom, B. S., and others. Radiation therapy in New Hampshire, Massachusetts

and Rhode Island. New England J. Med. 286:189-194, Jan. 27, 1972.

95. Box, R. H. Large pharmacy fills small hospital's orders. Hospitals, J.A.H.A. 45:70,72,74,76, Oct. 16, 1971.

Jane Phillips Episcopal-Memorial Medical Center in Bartlesville, Oklahoma shares pharmacy services with a small general hospital in Nowata, Oklahoma. Although the smaller hospital had some token consultation in the past, it had no pharmacy of its own, no routine inspection of drugs, and no established control over drug abuse items other than narcotics. Inventory prepacking and drug distribution in the shared service program are described. The recipient hospital pays an established fee to the service hospital including the various expenses involved in prepacking and delivery of drugs. A separate fee is paid to the pharmacist, who is director of pharmacy at the recipient hospital. Advantages to the smaller hospital include a controlled drug and intravenous solutions inventory with a hospital pharmacist on call at all times for consultations, a precise breakdown of pharmacy operations, dollar saving resulting from reduction in inventory, and a reduction in drug costs resulting from volume purchasing.

96. Brissenden, A. Combining the psychiatric resources of neighboring general hospitals. Hosp. and Community Psychiat. 28:348-349, Nov. 1972.

Pending the development of comprehensive mental health programs at neighboring Brooklyn hospitals, a custodial-type inpatient unit for private patients in one of the units was developed into an intensive treatment service to admit indigent patients as well. The program was combined with that of an outpatient clinic in another hospital. (Journal summary)

97. Burkholder, D. F., and others. Coordinated program development for shared pharmaceutical services in an urban community. Amer. J. Hosp. Pharm. 27:395-399, May 1970.

This paper describes a multi-hospital program whereby the staff of the Center for Pharmaceutical Practice, an arm of the School of Pharmacy of SUNY Buffalo, coordinates pharmaceutical services for three large urban hospitals. This activity has the characteristics of a group pharmacy practice. The Director of the Center serves as director of pharmaceutical services in the associated hospitals and the chiefs of each specialty area (manufacturing, control, drug information, and clinical practice) are responsible for that specialty area in each hospital. The advantages of this approach with respect to opportunities for shared services and for diversified education and training of pharmacy students and residents are discussed. (Journal summary)

98. Carlquist, J. H. Interhospital computerized quality control system. Pathologist. 24:191-193, June 1970.
(Inter-Hospital Computerized Quality Control Program, Salt Lake City, UT area)

99. Citizens League urges hospitals to share services--and they do. Mod. Hosp. 118:39, May 1972.
(Annotation, 27)

100. Clay, C. C. Shared services yesteryear. Hospitals, J.A.H.A. 45:20,24, Mar. 16, 1971.

The author describes a shared laboratory service which was in operation in Yonkers, New York as early as 1932. Three not-for-profit hospitals all utilized services which were proveded under contract by the city health department laboratories and two full-time pathologists. Routine lab work such as blood counts and urinalyses were performed in each hospital, while bacteriological and more complicated services were supplied by the central laboratories. Sometime after 1934 the arrangement with the health department, although successful, was discontinued and each hospital developed its own services under a pathologist. If the example set by the Yonkers hospitals and others with comparable services had earlier stimulated widespread adoption of such plans, the hospital field would be much further ahead.

101. College of radiology offers consultation service. Hosp. Week. Vol. 6, Sept. 4, 1970.
(American College of Radiology in cooperation with 55 regional medical programs throughout the country)

102. Computerized radiation system links hospitals. Hospitals, J.A.H.A. 45:30,34, Mar. 1, 1971.
(western Pennsylvania)

103. Crevasse, L. E., and Ariet, M. New scalar computer EKG program for on-line central EKG processing. J. Florida Med. Assn. 60:28-29, May 1973.
(Florida Regional Medical Program at the University of Florida College of Medicine)

104. DeView, L. Hospitals are learning to share. McCall's. 98:48, Feb. 1971.
(Detroit Quadrangle)

105. Donaher Jr., J. C. The changing anatomy of an academic health center. In: American Hospital Association. Shared Services in Health Care Institutions. Chicago: AHA, 1975, pp. 11-16.
(Detroit Medical Center)

106. Emergency medical services. Hospitals, J.A.H.A. (Special Issue). 47: May 16, 1973.

107. Fischer Jr., E. F. and Sherrick, J. C. An Annotated Bibliography on the Sharing, Centralization, and Consolidation of Health Facility Laboratories and Related Diagnostic Services. Chicago: Health Services Research Center, 1971.

108. Four small hospitals take a giant step. Chicago Med. 76:980, Nov. 17, 1973.

Four neighboring hospitals on Chicago's north side have operated a joint laboratory program efficiently and to their mutual satisfaction since 1967. The idea for the shared facility was first discussed in 1964 and took nearly three years to implement. Geographical location and a combined size of about 600 beds were major factors in formulating the initial proposal. By combining forces, the four hospitals expected to reduce the cost of overhead and increase purchasing power. The plan resulted in segregation of responsibilities whereby each hospital performed certain procedures for itself and all other members of the group. The benefits of this shared services program include stabilization of laboratory charges to patients, ability of the group to lease or buy modern automated equipment which could not normally be afforded by a small hospital, availability of the full-time services of a qualified bacteriologist and biochemist, and development and use of exact billing and cost allocation procedures.

109. Freedman, T. J. A review of the experience of the in-common laboratory in the development of joint laboratory services. Master's thesis, University of Toronto, Toronto, 1970.

In addition to a review of the experience of the in-common laboratory established at the Mount Sinai Hospital in Toronto, the author provides a literature review and detailed account of the joint laboratory with special attention to the concept and functions, organization, personnel, physical facilities, tests and equipment, communications, research and development, finances, opposition to and future of the in-common laboratory.

110. Gal, K., and Hanok, A. Saving through centralization. Hospitals, J.A.H.A. 44:60-62, 64-65, Dec. 1, 1970.
(Annotation, 513)

111. Gnau, T. R., and Maynard, C. D. Reducing the cost of nuclear medicine: sharing radiopharmaceuticals. Radiology. 108:641-645, Sept. 1973.

112. Gregorio, Sister M. P. Shared services with emphasis on "the Quadrangle Hospitals" in Detroit, Michigan. Master's thesis, Xavier University, Cincinnati, 1973.

113. Hain, R. F. The community core laboratory: the laboratory of the future. Southern Med. J. 65:379-380, Mar. 1972.

The community core laboratory can help to resolve many of the problems which afflict medicine in general including shortage of manpower, maldistribution of services, lack of uniformity in the quality of services, and spiraling costs. The core laboratory can achieve these ends by creating adequate volume to permit intelligent use of auotmation and electronic equipment, by conserving manpower, by providing a complete service which allows the exploration of a given patient's speciman to the totality of its useful medical information, and by creating a mechanism for interconvertibility of laboratory information. By supervising the quality control programs of the peripheral facilities and by conducting continuing education programs for their technical and medical staffs, the core laboratory can also insure that the laboratory results found in these facilities are reliable and provide useful information. The economic impact of such a laboratory on the total cost of health care and the problem of acceptance by the medical community are considered.

114. Hanlon, J. J. Emergency medical care as a comprehensive system. Health Serv. Rep. 88:570-587, Aug.-Sept. 1973.

115. Hassan Jr., W. E. Merging pharmacies could cut cost. Drug Top. 115: 16, Aug. 30, 1971.

116. Health Services Research Center. Consolidation of Clinical Laboratory

Facilities: An Evaluation. Chicago: Health Services Research Center, 1974.
(Annotation, 571)

117. Institutions in the Detroit Medical Center agree to shared medical services plan. Mod. Hosp. 121:31-32, Dec. 1973.

The Detroit Medical Center Corporation has developed a long-range program for coordination and consolidation of clinical/medical services among several hospitals in the Detroit area. Under the program, "centers of excellence" would be established at participating institutions and patients would be referred to these for specialized services. Pediatric services have already been consolidated and consolidation of general medical and surgical services, emergency and trauma services, and outpatient and rehabilitation services is planned. The goals of the Corporation as set forth in the report to the planning committee of the Greater Detroit Area Hospital Council are: to provide the highest quality health services within the present and future capabilities of the center institutions; to engage in joint planning to design an over-all service program for the center; to concentrate like services in order to avoid unnecessary duplication of facilities and personnel and to maximize utilization of available resources; to coordinate the planning and service capabilities of the center with other outside institutions in cooperation with the appropriate public and private health planning agencies; and to be committed to the concept that the center will become a coordinated health care system which includes specialized, primary and preventive health services to meet the health care needs of the greater Detroit area.

118. Joint laboratory makes specialized service possible. Mod. Hosp. 114:91, Apr. 1970.

The San Diego Institute of Pathology is a private commerical enterprise which currently serves more than 19 hospitals as well as walk-in patients. Pathologists at the Institute are responsible for general pathology work at one area hospital, but also use their special expertise by troubleshooting problems in their particular field for all hospitals. The Institute has its own centrally located laboratories with modern laboratory equipment and full time staff, including a number of pathologists who work only at the central facilities. The organization plans to standardize prices for all users in order not to be in competition with the hospitals.

119. Judge, D. Shared facility bridges hospital buildings and medical services gap. Mod. Hosp. 114:96-100, Apr. 1970.
(Metropolitan Medical Center, Minneapolis)

120. Katz, S. H., and others. Regionalization of laboratory services. Health Laboratory Sci. 10:287-293, Oct. 1973.
(Annotation, 519)

121. Kratz, R. L., and Garner, D. D. For stat orders, faster is better. Hospitals, J.A.H.A. 46:76,80,82, May 16, 1972.

122. McCracken, R. C. An analysis of sharing agreements between Veterans Administration, community and university medical center hospitals. Master's thesis, Duke University, Durham, NC, 1973.

123. Metamorphosis of a satellite health center. *Group Pract.* 20:18-19, Apr. 1971.
(Hunterdon Medical Center satellite--Phillips Barber Family Health Center, NJ)

124. Missouri establishes bone tumor center. *J. Mississippi State Med. Assn.* 13:15, Apr. 1972.
(University of Missouri Medical Center, Bone Tumor Referral Center)

125. Massachusetts Hospital Association. *Feasibility of Shared Drug-Related Functions*. Burlington, MA: Massachusetts Hospital Association, Management Systems Planning, 1971.

126. Morse, E. E. Connecticut Regional Medical Program. *Connecticut Med.* 35:138-139, Feb. 16, 1971.
(Blood Bank Survey and Supporting Services Program)

127. Mungerson, G. W. A shared radiation therapy center. *Hospitals, J.A.H.A.* 47:54-55,96, Dec. 16, 1973.
(Harvard Joint Center for Radiation Therapy)

128. New Jersey establishes statewide blood exchange. *Hospitals, J.A.H.A.* 45:133, Feb. 16, 1971.
(New Jersey Blood Exchange)

129. Norgren, W. High-pressure technique pays off. *Hospitals, J.A.H.A.* 48:75-76, Aug. 16, 1974.

A description of the Charette planning technique which was used by planners and architects of a proposed medical center to be shared by two large hospitals, one public and one private, in Minneapolis. The hospitals wished to maintain their separate identities, medical staffs, and programs, but were committed to architectural integration of their institutions and the cooperative use of approximately 30 treatment services. The week long Charette planning sessions included the administrators of each hospital, selected staff members from each institution, and the architects of the proposed center. The program also provided for input from physicians, community groups, and public officials. Marathon meetings were combined with the purposeful elimination of comfort in order to force planning decisions regarding the services to be shared, their design, and their location in the medical center.

130. O'Donovan, T. R. The Detroit 'Quadrangle.' *Hospitals, J.A.H.A.* 47:105-106,108, Feb. 1, 1973.

131. Passavant, Wesley sharing medical staffs. *Mod. Hosp.* 117:45, Sept. 1971.
(Chicago)

132. Pearson, R. E. Shared drug information services. *Amer. J. Hosp. Pharm.* 31:399-400, Apr. 1974.

This paper describes the use of pharmacists from multiple institutions to help staff a drug information service supported by the SUNY Buffalo School of Pharmacy. The Service is operated 24 hours each day, seven days a week, and the volunteer pharmacists respond to about 15 percent of the total calls recieved. The implementation of the program is described and the methods used by participating institutions to allow pharmacist participation are outlined. (Journal summary)

133. Peters, D. S. Shared services: a working arrangement. *Mich. Hosp.* 10:11,37,39, July 1974.
(Veterans Administration Hospital, Ann Arbor, and University of Michigan Hospital)

134. Provost, G. P. Regional planning and shared hospital pharmacy services. *Amer. J. Hosp. Pharm.* 28:669, Sept. 1971.

135. Ritter, C. A. Physician staffing of a shared emergency unit. Master's thesis, Xavier University, Cincinnati, 1971.

Provides an analysis of utilization patterns of a shared emergency unit in order to determine a method for providing physician staffing. Findings of the study are reported and implications for adequate physician staffing are discussed.

136. Robinson, W. M. M. Medical staffs merge. *Hospitals, J.A.H.A.* 47:60-65, Feb. 16, 1973.

Two neighboring Colorado hospitals (Swedish Medical Center, Englewood, CO, and Porter Memorial Hospital, Denver) merged medical staffs following consolidation of their pediatrics and obstetrics services. Pediatric consolidation resulted in a single first-class unit, with the patient volume necessary to support the skilled personnel essential to high-quality care. The same is expected of obstetrics consolidation. The merger was effected because the medical staffs of the two hospitals comprised essentially the same physicians and because the quality of care did not seem to be influenced by the repetitive and duplicative organizations and activities. The reorganized combined medical staff formed an executive committee, a professional activities committee, a credentials committee, and a subcommittee on utilization review. The activities of each of these committees and the organizational efficiencies achieved through the merger are described.

137. Rosenberg, C. L. General hospitals are going the way of G.P.'s. *Med. Econ.* 49:104-109,113,115, Sept. 11, 1972.
(Greenville (SC) Hospital System)

138. ______. This 20-bed hospital has 500 specialists. *Med. Econ.* 47:160, June 8, 1970.
(Grand Canyon (AZ) Hospital)

139. Scardino, V., and Deppisch, L. M. Centralization answer to volume explosion. *Hospitals, J.A.H.A.* 47:50-53, July 1, 1973.

Case study of Centralized Laboratory Services, a central laboratory facility serving 30 medical groups and one hospital affiliated with the Health Insurance Plan of Greater New York. Through automation of laboratory procedures and electronic data processing, the central laboratory facility has achieved substantial reductions in costs and greatly increased laboratory work load while maintaining high standards of quality and responsiveness of service. The study demonstrates the principle of economies of scale as a rationale for centralizing high-volume ancillary or supporting services.

140. Shared medical service: saving or suicide? Mod. Hosp. 114:88-91, Apr. 1970.

141. Sharing electron volts in Chicago. Mod. Hosp. 114:89, Apr. 1970.

A two-million electron volt linear accelerator used in the treatment of cancer patients is owned and housed by Chicago Wesley Memorial Hospital and used regularly for patients of three other institutions which are parts of the Northwestern University-McGaw Medical Center. In addition, some other patients are referred from other area hospitals.

142. Sharing services on the obstetrics ward. Med. World News. 11:34, Oct. 2, 1970.
(Seattle)

143. Snider, A. J. Passavant, Wesley adopt joint services. Chicago Daily News. Aug. 9, 1971, p. 16.
(Chicago)

144. Terenzio, J. V. Sharing professional services. Hosp. Forum (New York). 41:5-6,15, Mar. 1973.

Notwithstanding inherent constraints, sharing or consolidation of professional services offers greater potential for hospitals than sharing of administrative and supporting services. Improvement in professional care to patients, conservation and allocation of professional personnel, and dollar savings are likely outcomes. Reduction of capital construction costs and expensive operating costs is also possible when institutions share or consolidate professional services. Resistance to the sharing of professional services on the part of hospital administrators, trustees, and medical staffs is discussed and the most common arguments against sharing professional services and their counter arguments are set forth.

145. Weimer, W. C. Group activity among hospitals, an analysis of the paramedical service center. Master's thesis, Xavier University, Cincinnati, 1970.
(Ohio Department of Medical Hygiene and Correction, Paramedical Service Center)

146. West, J. W. How community pharmacists provide Rx services for two hospitals' outpatients. Pharm. Times. 41:50-52, Feb. 1975.
(Pharmacy-Shared Services Program, Holland City (MI) Hospital and North Ottawa Community Hospital, Grand Haven, MI)

147. ______. Two hospitals share unit-dose service. Hospitals, J.A.H.A. 48:112-114, June 16, 1974.
(Holland City (MI) Hospital and North Ottawa Community Hospital, Grand Haven, MI)

148. Williams, L. No tired blood. Barrons. Aug. 30, 1971, pp. 5,10,12.

149. Wyoming hospital linked to Colorado computer. Hosp. Forum (Western). 16:50, April 1973.
(Memorial Hospital, Sheridan County, Wyoming)

MANPOWER

150. Administrator loaned to rural hospital. Hospitals, J.A.H.A. 46:59, July 16, 1972.
(University of Wisconsin Hospitals and Community Memorial Hospital, WI)

151. Banner, M. T. Shared personnel, purchasing, and production. Hospitals, J.A.H.A. 47:39-42, Nov. 1, 1973.
(Annotation, 252)

152. Burkhalter, B. R. Cooperative multihospital management engineering programs (CMMEPs). Newsletter Hosp. Manage. Systems Soc. 11:8-9, Mar. 1972.

The author presents data on current practices regarding cooperation and competition among Cooperative Multihospital Management Engineering Programs (CHMMEPs). Data were gathered through a survey of 11 individuals representing CHMMEPs in 21 states and the District of Columbia. The survey questions are provided and the replies are interpreted.

153. Caldwell, A. B. There's good news and bad news about centralized management, official of hospital chain reports. Mod. Hosp. 119:33-34, Aug. 1972.
(National Medical Enterprises)

154. Colling, R. L. Shared security works. Security Manage. July 1973, pp. 30-31.

Case study of the development and operation of a shared security system planned by the Midtown Hospital Association, Denver, CO. Deployment and communications systems are described and new preventive components of the central system and a training program are outlined. Central investigation and safety engineering have recently been added as functions of the system. The new system has resulted in increased efficiency as well as dollar savings for the five hospitals involved.

155. A cooperative social work services for health care facilities in Hawaii. Nurs. Homes. 23:17,21, Feb.-Mar. 1974.

The Social Work Resource Center of Hawaii was formed to provide social work services from a centralized agency on a contractual basis to hospitals and skilled nursing facilities in Hawaii. The Center provides both general and technical services to participating institutions and recruits, orients, assigns, and supervises social work staff. This article describes the proposed organization of the program and includes a general discussion of the growing trend toward shared social work services.

156. Dildy, D. B., and Walling, M. F. Hospital improvement team--the shared management engineer and the hospital management analyst. Tex. Hosp. 28:22,27,36, Mar. 1973.

This article discusses the use of a management analyst in the Texas Hospital Association Shared Management Systems Program. The analyst, a full-time employee of the participating hospital, provides program continuity in the time lapse between visits of the shared management engineer by assisting in the implementation of management improvement programs. Through working with the engineer and dealing with department heads within the hospital, the analyst gains valuable training experience in the use of current management engineering tools and techniques. The authors consider how to select a management analyst and how to develop an effective management improvement program. The advantages of such a program include more timely completion of projects, improvement in the level of quality, better methods, improved patient care, and dollar savings.

157. Downey, G. W. For sale: hospital management. Mod. Healthcare. 1:35-43, June 1974.

158. Eberhard, M. J., and Ridgway, M. Development of a biomedical engineering shared service in southern California. Hosp. Forum (Western). 16:13-14, Feb. 1974.

The nature and level of the engineering support available to the staff of an average hospital is far from optimum. In order to help correct this problem the W. K. Kellogg Foundation has awarded a grant to the Hospital Educational Foundation of the Hospital Council of Southern California to establish a shared service program in biomedical engineering. The aim of the program is to develop the logistics system needed by hospitals to support technological demands placed upon them by the practice of modern medicine. The authors consider the dimensions of the problem and describe in some detail the proposed program of the Hospital Council including organizational structure, establishment of satellite laboratories, and relationship of the program to existing hospital staffs and to local biomedical engineering resources.

159. Epperson, R. L. Why SHESS? Tex. Hosp. 30:12-13, Oct. 1974.
(Texas Hospital Association, Shared Hospital Electrical Safety Services)

160. Gustafson heads two hospitals. Mich. Hosp. 7:16, Apr. 1971.
(Oceana Hospital and Lakeshore Hospital, Michigan)

161. Healey, L. A., and Friedrich, P. Health Services Consortium: good neighbor policy. Group Pract. 24:19-21,28, Mar.-Apr. 1975.
(Health Services Consortium, Seattle area)

162. Herring, Sister C. Ohio hospitals' quality control and staff utilization program. Hosp. Progr. 51:38-39,41-44, July 1970.
(Ohio Hospital Management Services)

163. Hinson, J. W. Continuing education in a rural area. Supervisor Nurse. 4:29,32-33,36-37, Aug. 1973.
(Annotation, 397)

164. Hospital electrical safety. Tex. Hosp. 30:19, June 1974.

A total hospital electrical program is available on an annual contractual basis through the Texas Hospital Association Health Services Corporation's Shared Hospital Electrical Safety Services (SHESS) Program. The program eliminates the need for an institution to purchase and maintain specialized test equipment or to assign staff to conduct tests and maintain records. Services available through the SHESS Program are described.

165. Hurst-Euless-Bedford Hospital associates with Harris Hospital. Tex. Hosp. 29:23,26, Feb. 1974.
(Fort Worth area)

166. Jones, K. B. Shared social services in the Northwest. Hosp. Soc. Work Directors Bull. 37:3, Nov.-Dec. 1973.

St. Joseph's Hospital, a 103-bed acute care facility in Lewiston, ID, shares the services of its trained social worker with two nearby rural hospitals. The social worker makes monthly on-site consultations with the smaller hospitals and directs training sessions for individuals who have been selected to deal with problems of social dysfunction in their respective hospitals.

167. Jones, L. S. Certification program set up to insure reliability of biomedical instruments. Hosp. Top. 51:19-22,25, Mar. 1973.

This article describes the establishment of an in-house biomedical engineering group and a comprehensive program for maintenance and certification of medical electronics equipment in the Dallas County Hospital District. The author, who is director of engineering service in the District, describes in detail the decisions involved in defining which instruments are to be covered, the procedures for setting goals and inventorying instruments, the procurement of technical manuals and laboratory test equipment, and the general operating procedures which apply to the program. The article provides the following: a schedule for implementation of instrument calibration and certification, a typical test procedure for a piece of monitoring equipment, and a certification record sheet for an instrument. The shared program reduced fragmentation of effort, reduced duplication of personnel, and improved quality control.

168. Koontz, J. S., and Zylstra, R. L. Rural shared services--an experiment in cooperation for small hospitals. Hosp. Forum (Western). 15:11-12,24, Aug. 1972.

Case study of the planning and development of a shared service program between two rural hospitals in separate districts of Washington's Puget Sound area. Initially, the hospitals began by sharing the services of an administrator as well as other selected hospital personnel. Later, maintenance services and selected fiscal services were shared, but attempts to share direct patient care services were unsuccessful because of time lost in travel and difficulty in coordinating schedules. The hospitals strengthened their complement of medical staff members through a recruitment drive. Equipment is transferred frequently between the facilities. Although the most suitable organizational structure for the program continues to be a matter of concern, the boards of the two hospitals are considering a merger of districts which would resolve some of these problems. Results include a broadened base of operations and a wider variety of health care services, as well as cost containment.

169. Laird, S. W. A shared dietitian consulting program. Hospitals, J.A.H.A. 47:75,78, Nov. 1, 1973.

Two therapeutic dietitians from Wausau Hospital in Wausau, WI, consult with a nearby 162-bed rural hospital and nursing home. The cost to the smaller institution includes the dietitians' traveling expenses, salaries, and fringe benefits for the time spent in direct service. The duties performed by the dietitians for the smaller institution are itemized.

170. Latimer, B. W. Hospitals share engineering services. Southern Hosp. 38:37-38,31, Nov. 1970.
(Carolinas Hospital Improvement Program)

171. LeBoutillier, P. SHIP: shared hospital in-service program. J. Continuing Educ. Nurs. 3:31-33, July-Aug. 1972.
(southwest Minnesota)

172. Long, S. D. Two hospitals share administrative services. Hospitals, J.A.H.A. 48:121-122, Oct. 1, 1974.
(Shared Services Systems, Omaha, NE)

173. Ludwig, P. E. Summary of AHA invitational conference on cooperative multi-hospital management engineering programs. Newsletter Hosp. Manage. Systems Soc. 9:3-4, June 1970.

174. Lutheran Hospital Society to manage Saddleback Hospital. Hosp. Forum (Western). 13:25, June 1970.
(southern California)

175. Malm, H. M. Multi-hospital management: analyzing an example. Hosp. Admin. 18:27-52, Spring 1973.
(Lutheran Hospitals and Homes Society of America)

176. Management may be the best place to begin saving. Mod. Hosp. 114:94-96, Apr. 1970.

This article presents examples of 11 management engineering programs, many making use of grants or separate corporations to bring about administrative innovations. The services provided by each of the programs are briefly described. They include training supervisors in management techniques, conducting feasibility studies for additional combined services, assigning engineers to individual institutions to analyze and implement various improvement techniques, developing programs to effect cost reductions, providing continuing education programs and conferences on work simplification, and sharing personnel, administrators, and boards of trustees.

177. The multiple hospital is the only way to go. Mod. Hosp. 121:7,10,14-16, Nov. 1973.

178. Northwest hospitals cooperate in innovative cost-savings plan. Hosp.

Forum (Western). 15:51, Apr. 1972.

The state hospital associations of Washington, Oregon, and Idaho have developed a "Systems Program for Hospitals" which is designed to provide hospital administrators with the information necessary to make better management decisions about internal hospital operations. The program, which is financed by the Kellogg Foundation and the Blue Cross Plans in each of the states, has brought about cost reductions, improved patient care and staff morale, and greater efficiency for the 40 participating hospitals. Specific examples of program results and a brief description of organizational goals and structure are given.

179. O'Neil, D. E., and others. Two hospitals--one administration. Med. Record News. 44:72-73, Aug. 1973.
(Detroit-Macomb Hospitals Association, Detroit and Warren, MI)

180. Parker, B. Three hospitals share clinical engineering services. Health Care Eng. 2:19-20, July-Aug. 1974.
(Bronx, NY area)

181. Pearson, R. E. Shared drug information services. Amer. J. Hosp. Pharm. 31:399-400, Apr. 1974.
(Annotation, 132)

182. Rosenberg, C. L. General hospitals are going the way of G.P.'s. Med. Econ. 49:104-109,113,115, Sept. 11, 1972.
(Greenville (SC) Hospital System)

183. ______. This 20-bed hospital has 500 specialists. Med. Econ. 47:160, June 8, 1970.
(Grand Canyon (AZ) Hospital)

184. Ross Jr., A., and Boyle Jr., R. L. Urban-rural exchange programs. Hospitals, J.A.H.A. 46:55-59, July 16, 1972.
(Virginia Mason Hospital, Seattle)

185. Seattle's consortium for education. Mod. Healthcare. 1:120-121, Apr. 1974.
(Health Services Consortium, western Washington)

186. Sharing enters field of biomedical engineering. Amer. Surg. Dealer. 60:14, May 1973.

Because of the difficulties involved in evaluating, installing and maintaining biomedical equipment, and in training staff to operate such equipment effectively, individual hospitals may be expected increasingly to turn to shared or cooperative ventures in this field. Three such regional programs which are now in operation are noted: the University of Wisconsin Advisory Center for Medical Technology Systems, the Health Planning Association of Northwest Ohio, and the Phelps Memorial Hospital Shared Clinical Engineering Center.

187. Simmons, J. C. Social work program meets hospitals' unique needs. Hospitals, J.A.H.A. 49:64-66, Feb. 16, 1975.
(Hahnemann Medical College and Hospital, Philadelphia)

188. Small hospitals get help in a big state. Mod. Hosp. 115:110-112, Sept. 1970.
(Texas Hospital Association, Shared Management Systems Program)

189. Tennessee agencies develop hospital cost control program. Hospitals, J.A.H.A. 45:120, Jan. 16, 1971.

The recently implemented Tennessee Effective Management Program (TEMP) is a shared management engineering program designed to help hospitals control rising costs while providing improved patient care. Services offered by TEMP to participating hospitals are briefly described.

190. Tolbert, J. H. Biomedical and engineering shared technology of New Jersey. Clin. Eng. News. 2:7-8, June 1974.
(New Jersey Hospital Association Biomedical and Engineering Shared Technology)

191. Tripp, L. Specific or total management through affiliation. Hospitals, J.A.H.A. 47:79-80,82, Nov. 1, 1973.

Nebraska Methodist Hospital, Omaha, has offered general and specialized management services to area health care institutions on an affiliation basis since 1968. The hospital provides either total management through contractual affiliation or temporary service through managerial and professional sharing for specific projects. The role of the shared food service manager under both the general and specific managerial plans is described.

192. Turner, W. W. The president's page. Tex. Hosp. 27:4-5, Aug. 1971.

This article describes the Texas Hospital Association's Shared Management Systems (SMS) Program which provides Texas hospitals with the consultation required to develop more effective management systems at minimum cost. This program, which now provides service to about 45 hospitals, was made possible by a grant of $99,000 over a three year period from the W. K. Kellogg Foundation. The SMS offers assistance to participating hospitals by arranging consultation visits by an area management systems specialist to advise the hospital's systems coordinator on the development of management engineering techniques and procedures, by disseminating to participating hospitals the results of projects in other hospitals throughout the nation, by developing standards for measurement of departmental performance, and by teaching scientific management techniques to administrators and supervisors.

193. Two New Jersey hospitals share food service director. Hospitals, J.A.H.A. 45:65, July 1, 1971.
(St. Peter's General Hospital and Middlesex General Hospital, New Brunswick, NJ)

194. West, J. W. Two hospitals share unit-dose service. Hospitals, J.A.H.A. 48:112-114, June 16, 1974.
(Holland City (MI) Hospital and North Ottawa Community Hospital, Grand Haven, MI)

Accounting and Information Systems

195. Advice on computer networks: go ahead, but find out where to. Mod. Hosp. 114:92-93, Apr. 1970.

196. Anderson, H. L. One computer serves twelve hospitals. Hosp. Financ. Manage. 25:6-8, Mar. 1971.

Twelve Wisconsin hospitals are receiving accounting and control services from a shared computer operated by Medistat, a cooperative project of the Wisconsin Blue Cross Plan and Wisconsin hospitals. Five basic master files are set up for each hospital before the hospital goes on-line to the shared system: a hospital profile, a charge description master file, a room and bed master file, a doctor's master file, and a file with coded details of the hospital's approved medical insurance plan. After the hospital begins to participate in the system, a patient master file and an accounts receivable file are developed and maintained. The author describes the data input into each of these files, the records produced by the system, and the economies effected in various hospital procedures from admitting to discharge.

197. Andrew, W. F. Advantages of a shared computer. Hospitals, J.A.H.A. 45:59-62, Nov. 16, 1971.
(Annotation, 531)

198. ______. Guidelines for evaluation and selection of a shared hospital data processing system. Osteopathic Hosp. 16:5-12, Oct. 1972.
(Annotation, 532)

199. ______. How to tell the correct time-sharing. Mod. Hosp. 117:113-114, Nov. 1971.
(Annotation, 533)

200. Bickers, C. R. Implementation of shared computer accounting system for hospitals. Osteopathic Hosp. 18:7-11, Mar. 1974.
(Bay View Hospital, Bay Villiage, OH)

201. Brewer, G. M. Processed data and other gods. Tex. Hosp. 25:31-34, Feb. 1970.

202. Broomall, C. L. Why hospital changed from in-house to shared computer system. Hosp. Top. 50:20-22, Nov. 1972.
(Atlantic City (NJ) Hospital)

203. Butler, G. D. HAS: a management tool for the small hospital. Hosp. Financ. Manage. 25:4-8, May 1971.

204. Cardwell, H. M. The Medical Information story. Tex. Hosp. 26:12-14, Sept. 1970.
(Texas Hospital Association and Medical Information, Inc.)

205. Carter, B. J. Credit and collections with Medical Information System. Tex. Hosp. 26:37,41, Sept. 1970.
(Lutheran General Hospital, San Antonio, and Medical Information, Inc.)

206. Chicago hospital cuts EDP costs 50-66 percent through time-sharing. Manage. Advisor. 9:19, Apr. 1972.

Chicago's Northwest Hospital became the 100th hospital to automate accounting procedures by linking data transmission terminals to the McDonnell Douglas Automation Company's shared computer system in Peoria. Northwest now receives patient billing, accounts receivable, accounts payable, general ledger and payroll services through the system while keeping its data processing costs down to one dollar per patient day.

207. Computer helps hospitals maintain records on dangerous drugs. Hosp. Top. 49:19, Sept. 1971.

Six hospitals operated by the Franciscan Sisters of the Poor are utilizing a computer system which provides daily lists of amount of medication administered by patient and by type of drug. The hospitals relay information about patient billing, medications, tests, and internal hospital accounting to the central computer which provides summary reports, including a narcotics control list.

208. Computer system will store psychiatric patient data. Med. World News. 11:42, June 26, 1970.
(Multi-State Information System, New England states)

209. Cotner, W., and Schoolar, S. Revenue increase by Medical Information System. Tex. Hosp. 26:18-19, Sept. 1970.

210. Danco, W. HAS marks 15th year. Hospitals, J.A.H.A. 48:55, Aug. 16, 1974.

Describes the development of AHA's Hospital Administration Services Program which marked its 15th anniversary in 1974. The main objective of the HAS program, which began serving six hospitals in 1959 and now serves nearly 3,000 institutions, is to provide comparative financial statistical data on hospitals and to compare individual institution performances to those of the entire hospital field. Some of the services initiated by the program over the past 15 years include: a cost allocation program; a budget analysis program; specialized programs for nursing homes, psychiatric hospitals, and university health centers; special educational services for managers; publications, and so forth. Services related to HMO's and other innovative delivery systems are now under study.

211. ______, and Schmidt, A. HAS: what it does for a hospital. Hosp. Financ. Manage. 28:32-35, Aug. 1974.

212. Fergus, R. M. What kind of computer network should your hospital be using? Hosp. Financ. Manage. 27:32,34-36, Mar. 1973.

The author explores the evolution of data processing in hospitals and weighs the advantages and disadvantages of several type of hospital computer networks. He concludes that shared computer networks offer special advantages and are a viable computer service alternative for hospitals.

213. Foster, C. L. Computer data collection and computer pricing. Tex. Hosp. 26:22-23,31, Sept. 1970.
(Texas Hospital Association and Medical Information Shared Computer System)

214. Gouveia, W. A., editor. Computer concepts. Amer. J. Hosp. Pharm. 28: 124-126, Feb. 1971.

215. Grom, H. S. A shared credit and collection program is at work in Minneapolis-St. Paul. Hosp. Financ. Manage. 26:24, May 1972.

Affiliated Hospital Services (AHS), a hospital-owned, not-for-profit, tax-exempt, cooperative association, was incorporated in 1969 to effect better and less expensive credit and collections. The management structure and staffing of AHS, the collection agreement made with participating hospitals, the procedure for classification and collection of accounts, and the charge formula are outlined. Six elements of program success are identified: "(1) a well-defined and mutually agreed upon need, pinpointed well in advance of implementation (2) total commitment and support from hospitals (3) a sound organizational base (4) becoming incorporated as a separate legal entity not coming under the wing of hospital (5) an interested and involved board and (6) building a reputation on its own merits and accomplishments."

216. Grosjean, D. B. Data processing for smaller hospitals. Tex. Hosp. 26:40,43, Sept. 1970.
(Texas Hospital Association, Shared Hospital Accounts Receivable System)

217. Haidinger, T. P. Computer timesharing: a primer for the financial executive. Financ. Executive. 28:26-35, Feb. 1970.

218. Hammon, G. L., and Jacobs, S. E. Shared computer systems. Part 1. Hospitals, J.A.H.A. 44:50-53, May 1, 1970. Part 2. Hospitals, J.A.H.A. 44:72-76, May 16, 1970.
(Annotation, 535)

219. Hartman Jr., J. D. Efficiency with data processing. Southern Hosp. 41: 10-12, May 1973.
(Hospital Data Center, Virginia)

220. Health care data service keeps records of clients' patients. The Office. 81:50,57, May 1975.
(Medical Computer Systems, Inc., Dallas)

221. Health Services Research Center. Demonstration and Evaluation of a Shared Modular Hospital Information System. Chicago: Health Services Research Center, 1973.

A detailed study of the establishment of a shared hospital modular information system (SHMIS) utilizing computer applications based on the Massachusetts General Hospital Utility Multipurpose Programming System (MUMPS) language in a consortium of hospitals. The research methodology includes the testing, monitoring, analysis, and evaluation with respect to the implementation, demonstration, evaluation, and application performance of the SHMIS approach. The evaluation is concerned with manpower utilization, quality of care, acceptance of the system, and generalizability.

222. Hospital Financial Management Association. *The State of Information Processing in the Health Care Industry*. Chicago: Hospital Financial Management Association, 1970.

223. Huey, J. P. System cost--old vs. Medical Information System. *Tex. Hosp.* 26:20-21, Sept. 1970.

224. Information systems threatened. *Hospitals, J.A.H.A.* 46:10,14, Mar. 16, 1972.
(Hospital Information Systems Sharing Group position in regard to automation in the health care industry)

225. Kenley, G. Impact of shared data processing. *Tex. Hosp.* 26:16-17, Sept. 1970.

226. Lehman, A., and Weinstein, A. D. Shared services in collection led to savings, efficiency. *Hosp. Financ. Manage.* 27:22,24-28, Aug. 1973.

Examines the decision-making process which led Midtown Hospital Association to contract with National Accounting Systems, Inc. for collection of delinquent accounts rather than to establish an in-house agency. A criteria chart used in examining each of the alternatives is provided. The services offered by NAS and the savings gained through the contractual arrangement are described. Cost accounting data is provided.

227. Leighton, E. California's computerized information system for hospitals. *Hosp. Forum (Western)*. 13:6-8,22,24, May 1970.
(California Health Data Corporation)

228. Lewis, P. M. The Hospital Utilization Project: a modern medical information-system for Pennsylvania hospitals. *Penn. Med.* 73:65-67, Mar. 1970.

229. Malm, H. *Computer Applications in a Health Care System*. Chicago: American College of Hospital Administrators, 1970.
(Lutheran Hospitals and Homes Society of America, Inc., Fargo, ND)

230. Medical Information: Texas Hospital Association Shared Computer Program. *Tex. Hosp.* (Special Issue). 26:8-43, Sept. 1970.

231. Moore, D. L. Shared services--Medical Information style. *Tex. Hosp.* 26:8,11, Sept. 1970.

232. Perla, G. G. Purchasing shared computer services. *Hospitals, J.A.H.A.* 47:70-71, Aug. 16, 1973.
(Annotation, 545)

233. Picha, N. A study to determine the effectiveness of a shared (off-line) computer service in the management of accounts receivable in small Texas hospitals. Master's thesis, Baylor University, Waco, TX, 1972.
(Texas Hospital Association, Shared Hospital Accounts Receivable System)

234. Rankin, J. W. Four Carolina hospitals go on line with computer. *Mod. Hosp.* 111:86, Oct. 1968.
(Medi-Data, Inc., Charlotte, NC)

235. Schmidt, A. HAS-CAP: what do they do? Hospitals, J.A.H.A. 45:21-168, Sept. 1, 1971.

236. Schwartz, M. D. Status of hospital information systems. Hosp. Progr. 51:52-60, June 1970.

237. Shared computer system introduced. Hosp. Forum (Western). 14:18, Feb. 1972.
(Health Data-Net, California)

238. Singleton, R. Internal controls of the Medical Information system. Tex. Hosp. 26:34, Sept. 1970.

239. Sisters of the Third Order of St. Francis. Demonstration of a Shared Hospital Information System (Final Report). Peoria, IL: Sisters of the Third Order of St. Francis, 1970.

240. Smith, S. D. A status report. Hospitals, J.A.H.A. 45:62-63, Nov. 16, 1971.
(Lakeland General Hospital, Lakeland, FL)

241. Soder, E. Service-bureau vs. in-house computer. Hosp. Financ. Manage. 26:22,27, Jan. 1972.
(Annotation, 549)

242. Survey shows a mixed pattern of computer problems and use. Mod. Hosp. 116:41, Mar. 1971.

243. Thorpe, L. R. Questions about time sharing. Hosp. Progr. 51:80,82,86-87, Feb. 1970.

244. Ulrich, W. Payroll and labor distribution--by products most beneficial. Tex. Hosp. 26:38,43, Sept. 1970.

245. Winfield, D., and Baldwin, G. Computerized insurance proration. Tex. Hosp. 26:29-30, Sept. 1970.

Central Service

246. Hospitals buy downtown buildings to house central services. Hosp. Top. 49:22, June 1971.
(Baptist Medical Centers, Birmingham, AL)

247. Jonassen, J. O. Hospital shared services. Hospitals, J.A.H.A. 45:43-47, Jan. 16, 1971.

Following a brief review of shared service arrangements in the United States and in other countries, the author discusses the concept of area industrial zones, which provide for the separation of non-clinical support functions from the hospital and the grouping of these functions on industrial sites. The possibility of implementing this concept in the

United States, where hospital ownership and control are diverse and sometimes competitive, and the inherent problems--standardization, large initial investments, and administrative reorganization--are discussed. In addition to reduced costs and increased quality control, benefits of the area industrial zone concept include reduction of the expansion problem in urban areas, increased design flexibility for both patient-related services and non-clinical support functions, and alleviation of maintenance problems through joint support of a trained maintenance staff.

248. Lauzen, E. Seattle: hospitals write new formula for central supply. Mod. Hosp. 114:100-102, Apr. 1970.
(Seattle-area shared services arrangements)

249. Ross Jr., A., and Zoellick, R. F. A shared central service department. Hospitals, J.A.H.A. 44:64,66,68,106, Sept. 1, 1970.
(Virginia Mason Hospital and Doctors Hospital, Seattle)

Dietary

250. Bailey, D. T., and Bonvicin, M. M. Central source for statewide sharing. Hospitals, J.A.H.A. 47:57-59, Nov. 1, 1973.

The Division of Management Services of the Rhode Island State Department of Mental Health, Retardation and Hospitals operates a centralized food processing plant at the medical center in Cranston. The Center, which serves 15 state facilities, has reduced labor costs and increased productivity. Meat processing, kitchen, and bakery operations at the central facility are described.

251. Balsley, M. Hospital mergers and multi-hospital units: impact on food service and dietetics. J. Amer. Diet. Assn. 66:609-613, June 1975.

252. Banner, M. T. Shared personnel, purchasing and production. Hospitals, J.A.H.A. 47:39-42, Nov. 1, 1973.

Shared food services can be divided roughly into shared professional and management expertise, shared food purchasing functions, and shared food production systems. Various types of arrangements within each of these categories are described and the present extent of sharing in each category is reported from a survey of members of the American Society for Hospital Food Service Administrators. The author examines resistance to sharing and notes that increasing emphasis on regional and area planning may create a better environment for the utilization of shared dietary services. Elements of success in shared dietary service plans are noted.

253. Brown, B. D., Doyon, P. R. An automatic, electronic food system. Hospitals, J.A.H.A. 47:63,64,66,68-69, Nov. 1, 1973.
(West Jersey (NJ) Hospital)

254. Community kitchen. Hosp. World. 2:14, Nov.-Dec. 1973.
(William Beaumont Hospital and Warren Memorial Hospital, Royal Oak, MI area)

255. Houston hospitals plan 'superkitchen.' Mod. Hosp. 119:42, Oct. 1972.
(University of Texas Medical School System and affiliated institutions)

256. Hutchings, B. B. Maintaining menu identity. Hospitals, J.A.H.A. (Special Issue). 47:83-84,86,136, Nov. 1, 1973.
(Craig Rehabilitation Hospital and Swedish Medical Center, Englewood, CO)

257. Johnson, C. S. Merger creates satellite service. Hospitals, J.A.H.A. 46:62-66, June 16, 1972.
(Good Samaritan Hospital and Medical Center and the Rehabilitation Institute of Oregon)

258. Laird, S. W. A shared dietitian consulting program. Hospitals, J.A.H.A. (Special Issue). 47:75,78, Nov. 1, 1973.
(Annotation, 169)

259. Shared food services. Hospitals, J.A.H.A. (Special Issue). 47:39-90, Nov. 1, 1973.

Contents: Shared personnel, purchasing, and production, M. T. Banner; Group food purchasing: a status report, L. H. Farevaag and B. D. David; The technology for improved service, G. Glew; Central source for statewide sharing, D. T. Bailey and M. M. Bonvicin; An automatic, electronic food system, B. D. Brown and P. R. Doyon; Council programs group purchasing, H. H. Hogan; A shared dietitian consulting program, S. W. Laird; Specific or total management through affiliation, L. Tripp; Maintaining menu identity, B. B. Hutchings.

260. Shared food services. Southern Hosp. 42:4, May 1974.

261. Tripp, L. Specific or total management through affiliation. Hospitals, J.A.H.A. (Special Issue). 47:79-80,82, Nov. 1, 1973.
(Annotation, 191)

262. Two New Jersey hospitals share food service director. Hospitals, J.A.H.A. 45:65, July 1, 1971.
(St. Peter's General Hospital and Middlesex General Hospital, New Brunswick, NJ)

Equipment

263. Dean, E. J., and Morton, C. F. Cost saving cues: sharing equipment. Hosp. Eng. Newsletter. 18:2-3, July-Aug. 1973.

The Maryland Hospital Cost Containment Program has developed a program for sharing infrequently used equipment and thereby avoids the expense of separate purchases. In order to formalize such a sharing program hospitals must overcome reluctance of hospital administrators to allow hospital assets to leave their control, determine what equipment is to be shared, establish a policy governing loss or damage of loaned equipment, determine legal aspects of equipment exchange, set up a system for keeping track of equipment, decide how to deal with one-sided exchanges or reluctance to list sharable items, and deal with changes in departments or administrations and policy revisions. Loan procedures of the Maryland program are outlined and the authors provide a listing of some of the items which are included under each of the five main headings of their shared equipment list: tools; generators, compressors, and pumps; communications equipment; test equipment; and vehicles.

264. Harter, T. R. Can the joint venture save you money? Hosp. Financ. Manage. 25:34-35, Jan. 1971.

Laundry

265. Answers to questions involving the tax exempt status of hospitals that establish cooperative laundry service; and a hospital which establishes its own laundry facilities and sells the service to other hospitals. Newsletter Soc. Hosp. Attorneys (Supplement). 3:2-3, Feb. 1970. (Annotation, 423)

266. Bartfeld, I. A. Five Connecticut hospitals form laundry cooperative. Hosp. Progr. 54:98,102, May 1973.

Case study of Hospital Cooperative Services, Inc., a not-for-profit, non-stock corporation which supplies linen and laundry services to five Connecticut hospitals. Before joining the coop, three member hospitals were in need of expansion for their in-plant facilities and the other two were using the services of a commercial laundry. When the idea of a cooperative was conceived, each of the member hospitals raised $6,000 for a feasibility study, agreed to standardize linen, and agreed to supply a portion of the linen for the new operation. The planning process and the laundry production system are described, and some attention is paid to provisions for expansion, employee transfer, and pollution control.

267. Bash, R. R. Feasibility of Consolidating Durham County (NC) Hospital Laundries. Master's thesis, Duke University, Durham, NC, 1973. (Duke Medical Center and Durham County (NC) Hospital Corp.)

268. Biggs, E. L., and Farnham, J. B. Evaluating laundry alternatives. Hospitals, J.A.H.A. 44:130-131, Feb. 1, 1970.

269. The birth of a central. Amer. Laund. Digest. 38:26-32,34, July 15, 1973.

Case study of the development of Hospital Linen Services, Inc., which serves member hospitals near Kansas City, KS. Reasons given for joining the central laundry included dissatisfaction with commercial laundry service, pressing needs to expand in-plant laundry facilities, and steadily increasing costs. In order to gather incidental start-up expenses, each interested hospital was assessed on the basis of $10 per bed. Committees were formed to handle various details and a number of central laundries were visited so that committee members could observe and study their performance. A consultant was called in to analyze individual hospital laundry needs and operational costs and to develop a common plan, projecting savings and benefits. Complications which arose in the planning stages are described in some detail and the advantages of the central laundry facility are noted.

270. Brousseau, T. G., and others. Birth of a 'minico-op.' Hospitals, J.A.H.A. 48:91-94, Apr. 16, 1974.
(Central Dakota Hospital Laundry, Inc.)

271. Catania, J. J., and Loucks, J. H. A hospital-based regional laundry. Hospitals, J.A.H.A. 44:62-65, Sept. 16, 1970.

The authors describe the planning and decision-making process which led to the establishment of a hospital-based regional laundry at the Crozer-Chester Medical Center in Chester, PA. The most important single factor influencing the final decision was the high cost of having the laundry done commercially. The problem of high cost was compounded by long-term contracts which stipulated that charges be renegotiated annually. Other contract details which posed potential problems of control involved linen ownership and replacement, quantity of linens used, sterilization of isolation linen, and management of laundry personnel in the hospitals. The authors describe the preliminary investigation which included an inquiry into the possible use of disposables as well as on-site visits to operating commercial and hospital laundry facilities and to manufacturers of laundry equipment. The work flow, processing costs, inventory procedure, and equipment of the new regional laundry are described. In addition to the possibility of using modern automated techniques, advantages of the present facility include management by hospital-based personnel and the use of services and facilities already available at the Medical Center such as maintenance service, boiler plant, cafeteria, and employee health services.

272. Cathey, J., and Giancola, D. M. Shared service. Southern Hosp. 41:14-15, May 1973.
(Hospital Services Corporation, Columbia, SC area)

273. Central laundries can save by adding volume and control. Mod. Hosp. 114:84-87, Apr. 1970.

This overview of the status of central laundry services examines some 20 locations throughout the United States in which hospitals are participating in, are planning, or have decided against entering shared laundry service agreements.

274. Chicago: shared laundry, purchasing gather steam. Mod. Hosp. 114:104, Apr. 1970.
(Chicago-area shared services arrangements)

275. Church, S. T. The co-op that could. Hospitals, J.A.H.A. 45:114-116, Dec. 16, 1971.
(Hospitals Laundry Association, Inc., Boston, MA area)

276. ______. The cooperative laundry concept: it's not as costly as you think. Executive Housekeeper. 20:46,48,50,52, Apr. 1973.

The author demonstrates that chareges of high costs which are the basis of much criticism of the cooperative laundry are largely unwarranted. A method which may be used to calculate the direct labor cost and productivity index for any hospital laundry operation is described. The cooperative laundry is shown to process laundry at an efficiently high productivity rate and a low direct labor cost. In addition, the cooperative laundry must absorb all operating costs and cannot lean on participating member hospitals for services such as utilities, maintenance, personnel, and space. Each of these services entails expenses which are not necessarily reflected in the in-plant laundry's cost. Today, many co-ops are multi-service organizations which frequently provide services likely to effect economies of scale for participating member hospitals, such as mending or operating room linen pack service. A number of central laundries are making available services which have nothing to do with laundry and linens such as data processing, group purchasing, blood and drug supply, warehousing, and other services which are resulting in dollar savings.

277. ______. Cutting laundry costs--the central laundry concept. Executive Housekeeper. 21:36,48,50, Mar. 1974.

Through cost reduction and the elimination of large investments, central laundry facilities can make funds available for purposes more closely related to patient care. The author describes how the advantages of centralization are achieved and examines the trend toward hospital shared services which has encouraged the adoption of the central laundry concept.

278. Coldewey, G. T. Shared laundry service. Hospitals, J.A.H.A. 44:18, June 1, 1970.
(Annotation, 425)

279. Commercial/in-plant battle brewing in Milwaukee. Amer. Laund. Digest. 40:46,49, May 15, 1975.

280. Commercial laundries block construction of central. Amer. Laund. Digest. 40:44, Jan. 15, 1975.
(Virginia Hospital Luandry, Inc., Richmond, VA)

281. Co-op laundry set to produce 14,000,000 pounds per year. Amer. Laund. Digest. 37:44-46,48,50, Sept. 15, 1972.
(Cooperative Hospital Services, Inc., Milford, CT)

282. Cooperative central laundries form their own association. Amer. Laund. Digest. 35:10, Jan. 15, 1970.
(Association of Cooperative Hospital Laundries)

283. Cooperider, N. L. The making of a successful co-op linen service. Executive Housekeeper. 22:29-30,32-34, Mar. 1975.
(Hospital Linen Services, Inc., Kansas City, KS area)

284. Court denies revenue bonds for shared laundry service. Hospitals, J.A.H.A. 49:107-108, Feb. 16, 1975.
(Richmond, VA)

285. Crosswise work flow speeds linens through central facility. Amer. Laund. Digest. 35:34-36,38-39,42,44, Dec. 15, 1970.
(Hospital Linens, San Carlos, CA)

286. Danks, R. T. Automation for a new central laundry. Hospitals, J.A.H.A. 45:112-117, Sept. 6, 1971.
(St. John's Hospital, Springfield, IL)

287. Dobson, R. J. Blueprint for a central laundry. Executive Housekeeper. 19:22-24,26,28,46, Mar. 1972.

The author describes the stages in the development of the Newark Central Hospital Laundry from the time of the original consultant study through the planning and design stage and then into construction, equipment purchase, and personnel projections. The laundry serves and is administered by 10 New Jersey hospitals which formed a not-for-profit corporation known as the Central Services Corporation of Metropolitan New Jersey. Notable features of the central laundry include: complete linen supply service with mending, operating room linen pack service and retail delivery of the linen, the use of tunnel washing systems and continuous flow processing, and the use of pneumatic conveyor systems. The laundry's processing flow, sorting process, finishing procedures, and equipment are described in detail. An architectural model of the laundry and pictures of laundry equipment are provided.

288. Field, F. Central laundries--the case for de-centralization. Laund. Cleaning World. 1:22,36, Oct. 1973.
(Medical Center of the University of California at San Francisco)

289. Four Minneapolis hospitals to operate common laundry. Hosp. Top. 48:18, May 1970.

290. Garry, R. Central laundries: wave of the future? Laund. Cleaning World. 1:12,16,31,34, Aug. 1973.

Following a brief overview of the development of the central laundry concept the author discusses some of the advantages of the central laundry concept: payment of only a few pennies per pound laundered for capital funds, savings on investment for individual expansion and modernization, space savings within the hospital, flexibility and capacity for further growth, lower laundry costs, high quality, adequate quantity, regular deliveries, protection against cross-infection, relief for management, a combination of internal control with external production, and ability to expand linen services to the extent desired. The advantages of the central laundry service are compared with the advantages of in-plant laundry service, commercial-contract laundry service, and linen supply service.

291. Hess, A. E. Is it true what they say about centrals? Amer. Laund. Digest. 38:35-36, Aug. 15, 1973.

Using his own in-plant laundry (St. Luke's Hospital, Kansas City, KS) as a model, the author challenges seven common claims made for central laundry facilities: that they increase savings for individual hospitals, that they reduce laundry and linen costs, that they provide better service and quality, that they allow use of space for other purposes, that they save money on linen replacement costs, that they relieve hospital administrative staff, and finally that they are unable to find competent managers for in-plant operations. Hess shows that his in-plant facility saves more than $250,000 compared to what the local central would charge.

292. Horn, J. R. The centralized laundry concept. Executive Housekeeper. 20:36,86,90, Mar. 1973.

The executive director of the Central Services Corporation of Metropolitan New Jersey discusses the need for careful study of statistics upon which the design of a prospective laundry plant is based. He also addresses the problem of unused or idle capacity in a central facility which is built to process a larger volume of linen than is initially needed for member hospitals. The continuous flow production plant at the New Jersey central laundry facility and the systems devised to control the distribution of linens to member hospitals, measure productive efficiencies, and control inventories, are described.

293. Jappy, W. C. Discussion of factors involved when considering participation in a central laundry. Master's thesis, University of Toronto, Toronto, 1969.
(Centennial Hospital Linen Services, Inc., Toronto)

294. Kelly, J. C. Workflow par excellence. Laund. Cleaning World. 2:6,8,16, May 1974.
(Central Services Corporation of Metropolitan New Jersey)

295. Killenberg, G. A. Hospital financial problems. Hosp. Top. 49:56, Oct. 1971.
(Annotation, 561)

296. Kretschmar, C. G., and Furst, R. W. Should your hospital join a shared laundry? Hospitals, J.A.H.A. 47:174,176,178,180,182,184, July 16, 1973.

297. Largest non-profit hospital laundry will service 12 Newark-area institutions. Nurs. Homes. 21:8, Feb. 1972.
(Hospital and Health Planning Council of Metropolitan New Jersey)

298. Lauzen, E. If the laundry won't come to the carts the carts will go to the laundry. Mod. Hosp. 114:134, Feb. 1970.

Specially built laundry carts used both for transport and storage of soiled linens have lowered laundry rates for two hospitals sharing a laundry. In addition, 9,500 square feet of space was freed at one of the hospitals for future expansion of services.

299. Long, S. D. Two hospitals share administrative services. Hospitals, J.A.H.A. 48:121-122,175, Oct. 1, 1974.
(Shared Services Systems, Omaha, NE)

300. Menzel, R. Cooperative central laundry solves problems. Hosp. Manage. 112:27, Aug. 1971.

301. New corporation to provide shared hospital services. Mich. Hosp. 6:27, Nov. 1970.
(Metropolitan Detroit Area Hospital Services, Inc.)

302. Nine-year progress. Amer. Laund. Digest. 35:36-38,40-42,47-48, May 15, 1970.
(Hospital Laundry Association, Inc., Greater Boston area)

303. Oehnel, E. Central hospital laundries. Executive Housekeeper. 18:30,32, 34,36-38, Mar. 1971.

304. Pertl, D., and Giancola, D. Central laundry irons out linen control problems. Hospitals, J.A.H.A. [illegible]:93-94,96,98, May 16, 1974.

The provision of a full and complete linen service together with exact control of that service can solve many of the deficiencies in central laundry operations. If the linen processing and control system is correctly designed and implemented a full range of services including linen purchasing, inventory control, linen repair, use area delivery, daily delivery requirement calculations, and accounting and control information may be furnished at a comparatively low price. The authors note the reasons for failure of traditional linen control systems and describe a central laundry soiled linen count and even exchange control system which can solve the problem of balancing supply and demand and curb linen misuse in member hospitals. The soiled linen count system they describe, which is used by the Hospital Services Laundry of Columbia, SC, allows production of the following report data: a daily production report, daily delivery requirements, bimonthly or weekly billing reports, and numerous linen utilization and work load analysis reports.

305. ______. Shared laundry service: development, problems, and needed directions. Trustee. 27:25-31, May 1974.

306. Pick, O. M. A cooperative central laundry. Part 1. Hospitals, J.A.H.A. 45:84,86-87, Feb. 16, 1971; Part 2. Hospitals, J.A.H.A. 45:106-108, Mar. 1, 1971.

Case study of the development of the Madison United Hospital Laundry, Ltd., a cooperative central laundry which was built to serve three Madison, WI hospitals. The three participating hospitals formed a not-for-profit corporation which assumed the responsibility for the planning, design, and construction of a building. The selection of the construction site and the early work of a linen standardization committee are described. The author also describes the management structure and administrative operation of the laundry and explains the detailed record keeping and billing systems which solved problems of underestimation of linen needs by member hospitals and hoarding of linen.

307. Pierce, P. M. Modern equipment, efficient workflow mark central's success. Inst. Laund. 15:6,8,22, July 1971.
(Western Kentucky Hospital Services, Inc.)

308. Pounds per operator hour up, workforce down. Amer. Laund. Digest. 39: 66-69, Aug. 15, 1974.
(Hospital Cooperative Services, Connecticut)

309. Ryan, J. P. Outside consultant tells what's right, wrong with central laundries. Amer. Laund. Digest. 35:34,36,38,40,41, Oct. 15, 1970.

310. Schweid, P. The central laundry--yesterday, today and tomorrow. Amer. Laund. Digest. 36:64-66,68,70, Feb. 15, 1971.

311. ______. Co-ops: they're catching on. Hospitals, J.A.H.A. 46:106-108, 111-112, Mar. 16, 1972.

312. Shared laundries form association. Hospitals, J.A.H.A. 45:122, July 16, 1971.

The Association of Cooperative Hospital Laundries was formed in September 1970 to provide a vehicle for the exchange of operational data by its members. Association membership now includes 20 central laundries in the United States and Canada which represent nearly 200 hospitals with a total of over 50,000 beds. The Association offers its members information packets on subjects such as employee incentive programs, linen cart services, and financing options as well as sample documents pertinent to the formation of a cooperative central laundry corporation. In addition, member laundries may take advantage of a comparative data system which has been developed with the cooperation of AHA's Hospital Administrative Services (HAS) program. The Association encourages visits among member institutions and arranges the exchange of research and survey information resulting from studies engaged in by member institutions.

313. Shared system starts in Oregon. Hosp. Forum (Western). 15:17, Sept. 1972.
(Portland (OR) Hospital Shared Services Corporation)

314. Shorr, A. S. How to take a hospital to the cleaners. Hospitals, J.A.H.A. 45:97-99, Aug. 16, 1971.
(Associated Hospitals Processing Facility, Detroit)

315. Simon, S. R. PROFILE: Rhode Island Medical Center central laundry. Laund. Cleaning World. 1:18-19, Apr. 1973.

316. Sixteen Chicago hospitals form shared service laundry. Hospitals, J.A.H.A. 47:176, May 16, 1973.

Hospital Laundry Services (HLS) serves 16 Chicago hospitals with a total of 5,525 beds. The two plants which handle the laundry are equipped to serve additional hospitals if the need arises. Savings for the participating hospitals are estimated at $1 million annually.

317. Take a tour of a central. Amer. Laund. Digest. 38:46-49, Dec. 15, 1973.
(Combined Services, Inc., Miami-Ft. Lauderdale, FL)

318. Taylor, R. A. Financing a cooperative hospital laundry. Hospitals, J.A.H.A. 46:108,110,111, Aug. 16, 1972.
(Annotation, 569)

319. Tri-level production aids efficiency. Amer. Laund. Digest. 39:58-61, Jan. 15, 1974.
(Texas Medical Center, Houston)

320. Twenty hospitals form group to establish shared services. Hospitals, J.A.H.A. 45:103, June 16, 1971.
(CINDAY Shared Services Committee, southwestern Ohio and northern Kentucky)

321. Virginia shared laundry service target of antitrust suits. Hospitals, J.A.H.A. 48:17, Nov. 1, 1974.
(Virginia Hospital Laundry Inc., Richmond, VA)

322. Warm, B. How we meet four merged hospitals' laundry and linen requirements. Amer. Laund. Digest. 35:65-66,68, Sept. 15, 1970.
(Wilmington (DE) Medical Center)

323. Which type of laundry service is best for you? Hospitals, J.A.H.A. 47:64-65, Aug. 16, 1973.
(Annotation, 550)

Library

324. Michael Jr., M. Networking for community hospital libraries. Biomedical Communications. 1:19,41-42, July 1973.

The library system of the Jacksonville Hospitals Education Program (JHEP) is made up of nine community hospital libraries which pool resources, coordinate acquisitions, and share the services of a medical librarian who coordinates the system from a central facility. The librarian maintains a union catalog which duplicates the holdings of the nine libraries, catalogs all acquisitions, supervises the library assistants in the hospitals, answers reference questions, and furnishes bibliographic data. All loan requests are coordinated at the central facility. When requests can not be filled from the circulating collections of the participating libraries, the central facility provides photocopies from its own non-circulating collection which contains back up materials not found in any of the system's libraries. The central facility also joins a national network through a teletype unit which can send requests to any of the libraries in the southeastern group of medical school libraries which participate in the Regional Medical Library system of the National Library of Medicine. Thus, the small community hospital library has rapid access to materials which are collected in local, regional, and national libraries. The author offers suggestions for improvement of the program and notes additional services which are planned.

325. New role for hospital libraries: community health learning centers. Cross-Reference. 1:9, Oct. 1971.
(Annotation, 414)

326. Vaillancourt, P. M., and Woods, Sister R. C. Three-pronged approach for centralized library services. Special Libr. 63:528-532, Nov. 1972.

The Catholic Medical Center of Brooklyn and Queens, Inc. (CMC) developed a three-phase program which involved drawing together nine small hospital libraries into a cooperative, functional unit. The three phases described include: the decision to centralize; the implementation of housing for the new centralized library and the development of plans for the organizational structure; and the formulation of long range goals including the continued exploration of available resources. Elements of good planning and errors made in each of the developmental phases are described.

327. West Suburban Hospital Association in cooperation with the New England Hospital Assembly Incorporated Consortium for Information Resources. Fact Sheet. Newton Lower Falls, MA: Newton-Wellesley Hospital, 1974.

Medical Audit and Medical Records

328. Bu[illegible], E. /Medical records problems in dealing with two hospitals/. Med. Record News. 42:60-61, June 1971.
(Martin Place Hospitals East and West, Detroit, MI area)

329. Fifer, W. R., and Ellsworth, S. J. A shared medical audit program for small hospitals: meeting the demands for accountability. Hosp. Med. Staff. 3:1-10, Oct. 1974.

Author describes a regional medical auidt program established by the University of Minnesota's Area Health Education Center to serve 14 counties in east central Minnesota. The conceptual and operational problems of medical audit programs are described in some detail with particular reference to the situation of rural and smaller hospitals. Methodology, standard setting, committee formation, audit criteria, and data retrieval for the regional program are described.

330. Reising, J. H. A unitary medical record data base in Forsyth County, North Carolina. Master's thesis, Duke University, Durham, NC, 1972.

Includes a cost-benefit analysis of a proposed unitary computerized medical record data base as well as a discussion of areas of potential but non-quantifiable savings.

Purchasing

331. Ammer, D. S. Shared effects of group purchasing. Hospitals, J.A.H.A. 47:81-82,84-85, Sept. 16, 1973.

Hospital involvement in group purchasing offers the opportunity to reduce purchasing costs by 10 to 15 percent. The buying power of a strong purchasing group can force suppliers to compete and thereby bring prices down. Changes in the price structure affect members of the group as well as nonmembers in the same marketing area. Future prospects for group purchasing are bright--nearly 2/3 of voluntary group purchasing organizations are less than 10 years old and the volume of purchases made by these groups is growing at an accelerated rate. In addition, the prudent buyer concept, which is a criterion for reimbursement under federally financed health insurance programs, is likely to be a potent force in encouraging the development of group purchasing.

332. Appalachian Regional Hospitals central purchasing service. Hosp. Progr. 53:38, May 1972.

333. Arizona hospitals form group purchasing cooperative. Hosp. Manage. 111:5, Jan. 1971.
(Cooperative Purchasing Association of Arizona)

334. Balsley, M. B. Example of a trend: food purchasing program, Chicago Hospital Council. J. Amer. Diet. Assoc. 66:162-165, Feb. 1975.

335. Baltimore hospitals cut costs through joint purchasing. Hosp. Purchasing. 14:4, Aug. 1970.
(Hospital Cooperative Services and Supply Center, Inc., Baltimore)

336. Banner, M. T. Shared personnel, purchasing, and production. Hospitals, J.A.H.A. 47:39-42, Nov. 1, 1973.
(Annotation, 252)

337. Barton, J. Cooperative purchasing: quantity gets quality. Mod. Nurs. Home. 29:33-35, Dec. 1972.
(Nursing Home Cooperative, Chicago)

338. Brawley, Sister A., and others. The future of hospital purchasing. Hosp. Progr. 52:32-44, Mar. 1971.

339. Cabot, E. E. Knowledge and timing are keys to buying by bid. Mod. Hosp. 120:91,96, Jan. 1973.

340. Change of structure, philosophy doubles group purchasing volume. Mod. Hosp. 18:2, May 1974.
(Hospital Purchasing Service of Michigan)

341. Chicago: shared laundry, purchasing gather steam. Mod. Hosp. 114: 104, Apr. 1970.
(Chicago-area shared services arrangements)

342. Davis, R. R. Group buying? Bonanza or disaster? Amer. Surg. Dealer. 59:32-33, Sept. 1972.

343. ______. Hospitals find group purchasing results in big savings. Hosp. Purchasing. 16:2, Oct. 1972.
(Hospital Association of Metropolitan St. Louis, Shared Services Division)

344. Farevaag, L. H. Criteria for organizational decision-making about food procurement in health care facilities. Ph.D. dissertation, University of Wisconsin, Madison, WI, 1973.

345. ______, and David, B. D. Group food purchasing: a status report. Hospitals, J.A.H.A. 47:43-47, Nov. 1, 1973.

346. First quarter 1972 purchasing volume reaches record peak. Hosp. Purchasing. 16:2, Aug. 1972.
(Chicago Hospital Council, Group Purchasing Program)

347. Fritz, J. T. Group purchasing: does it work in small hospitals? Hosp. Manage. 110:60-61, Nov. 1970.

348. Giunta, A. A. Conference report: a look at some group purchasing plans.

Nat. Assn. Hosp. Purchasing Manage. Newsletter. 3:12-13, Jan. 1973.
(South Florida Hospital Association shared services program)

349. Group buying--bonanza or disaster for medical products distributors? Amer. Surg. Dealer. 59:37-38,40, Oct. 1972.

350. Group purchasing. Hosp. Purchasing. 17:10, Oct. 1973.

351. Group purchasing is big and getting bigger, but slowly. Mod. Hosp. 114:80-84, Apr. 1970.

352. Group purchasing units hit new peaks in volume, savings. Health Inst. Purchasing. 3:9H, Nov. 1972.
(New Jersey Hospital Association)

353. Hahn, C. K., and Hardy, S. T. Factors affecting acceptance of a hospital group purchasing program. J. Purchasing. 8:54-68, Aug. 1972.

354. Hogan, H. H. Council programs group purchasing. Hospitals, J.A.H.A. 47:71,74, Nov. 1, 1973.
(Chicago Hospital Council)

355. Holland, S. E. Group purchasing can save time and money. Hosp. Manage. 112:41, May 1971.

356. Holmgren, J. H. Buy together, buy for less. Mod. Healthcare. 3:62, Feb. 1975.

357. ______. How purchasing groups are organized, who uses them, and how they work. Mod. Hosp. 119:60-61, Oct. 1972.

358. ______. These are the arguments for and against group buying. Mod. Hosp. 119:68, Nov. 1972.

359. Hospitals form purchasing co-op. Hosp. Top. 48:19, Sept. 1970.
(Hospital Service and Supply Center, Inc., Baltimore)

360. Hutton, D. H. A feasibility study of the southern tier of New York to determine the advantages of group purchasing. Master's thesis, Xavier University, Cincinnati, 1971.

Study provides a detailed overview of group purchasing including the development of group purchasing agencies, types of group purchasing agencies and their distinguishing characteristics, advantages, disadvantages and inherent limitations of group purchasing, reported savings and growth rates, and the prerequisites for establishing a group purchasing program. The feasibility analysis focuses on problems of standardization and centralization, determination of groups to involve, data gathering and analysis and the estimation of savings which could be realized through the formation of a group purchasing agency. Includes a 41-item bibliography.

361. Kansas City (KS) area hospitals form group purchasing service to combat costs. Amer. Family Physician. 3:169-170, Mar. 1971.
(Kansas City Area Hospital Association)

362. Lane, M. M. Nursing home administrators may be well advised to look at group purchasing. Nurs. Homes. 21:26-27, Feb. 1972.

363. Levinson, P. Cooperative hospital purchasing. Hosp. Pharm. 6:12-15,18, Apr. 1971.
(Commodities Purchasing Associates, San Francisco Bay Area)

364. Long, S. D. Two hospitals share administrative services. Hospitals, J.A.H.A. 48:121-122,175, Oct. 1, 1974.
(Shared Services Systems, Omaha, NE)

365. Maroudas, C. D. The Appalachian Regional Hospitals central purchasing service. Hosp. Progr. 53:38,40-42, May 1972.

366. Medical Group Management Association group purchasing plan: how and why it holds down costs. Med. Group Manage. 21:26-27, Jan.-Feb. 1974.
(Medical Group Management Association, Group Purchasing Plan)

367. Mills, J. Is group purchasing really a swear word? Amer. Surg. Dealer. 60:28-29, Dec. 1973.

368. Nelson, P. E. The hospital purchasing service of Michigan: an analysis of its history, stature and potential. Mich. Hosp. 11:10-13, Jan. 1975.
(Hospital Purchasing Service of Michigan)

369. New Jersey county hospital joins group purchasing program. Hospitals, J.A.H.A. 14:3, Aug. 1970.
(New Jersey Hospital Association, Coordinated Group Purchasing Program)

370. Osteopathic Group Purchasing Program expands services. Osteopathic Hosp. 16:29-30, Nov. 1972.
(Prudent Buyer Services, Inc., Park Ridge, IL)

371. Owen, J. W. Wide-range sharing for two hospitals. Hospitals, J.A.H.A. 48:105-107, June 1, 1974.
(Annotation, 57)

372. Shreck, I. E. Multi-hospital purchasing: innovative growth in the West. Hosp. Forum (Western). 16:11-12, Oct. 1973.
(western United States purchasing groups)

373. Simmons, B. A. Group purchasing--any way you like it. Hospitals, J.A.H.A. 46:90,92,94,96-97, Aug. 16, 1972.

Hospital group purchasing has come to be a widely accepted means of sharing to keep down costs. The author reviews the various types of group purchasing arrangements now in operation in terms of their organizational structure, their administrative arrangements, their financial mechanisms, and in terms of the kinds of commodities obtained. Includes a table of purchases and savings realized in 1971 as reported by 24 selected group purchasing organizations.

374. Six hospitals to share their resources, but not medical staffs. Mod. Healthcare. 3:67, Jan. 1975.
(Susquehanna Valley (PA) Health Care Consortium)

375. Standardization, contract buying cut costs $250,000. Health Inst. Purchasing. 1:43-44, June 1970.
(Medical Supply Corporation, California)

376. Tinnermon, E. Group purchasing. Southern Hosp. 38:10, Oct. 1970.
(Hospital Group Purchasing Symposium, Birmingham, AL)

377. Widman, P. E. /Advantages of group purchasing/. Hosp. Purchasing. 15:1-2, Sept. 1971.

EDUCATION AND TRAINING

378. An alliance for sharing. Hospitals, J.A.H.A. 47:51-53, Dec. 16, 1973.
(Rural Health Care Alliance, southeastern Oklahoma and north central Texas)

379. Barn raising comes to health education. In-Serv. Training and Educ. 3:13-14,21-22,26, Aug. 1974.
(Regional Approach to Improved Service Through Education, west central Minnesota)

380. Bickley, H. C., and Penick, G. D. Economical health science teaching through cooperative courses. Biomed. Communic. 2:24,42-46, May 1974.

381. Blaine, R. A dream grows in Kansas. In-Serv. Training and Educ. 2:14-16,18, June 1973.

Case study of the Association for Continuing Education (ACE) in Great Bend, KS, an educational consortium which offers more than 40 education and training programs to 12 institutions separated by as much as 120 miles. The planning process is described and possible pitfalls in the planning stage are noted. The author describes ACE staff organization and policies and lists approximately 20 of the 40 programs offered by the consortium in its first year of operation.

382. Brooklyn hospitals share training. Bull. Hosp. Educ. and Training. 14:4, Nov. 1970.
(Health Careers Training Program, Brooklyn)

383. Communication lines tie nine rural hospitals into network. Mod. Hosp. 118:93-95, Apr. 1972.
(Annotation, 28)

384. Conway, B. For educational flexibility, form a coop. Supervisor Nurse. 5:36-37,39, July 1974.

The membership of the South Florida Consortium for Health Manpower Continuing Education in Dade County, Florida, is made up of representatives from a wide variety of community organizations including hospitals and voluntary associations, the Regional Medical Program, the local Health Planning Council, the State Board of Nursing, the Florida Nurses' Association, the Veteran s Administration, the Public Health Department, the local University and Junior College Allied Health and Nursing Programs, and other health agencies in the area. After pooling resources to produce a community-wide workshop on leadership as a first project, the Consortium formulated a list of long-range goals involving coordinated efforts toward joint programming, matching of needs and resources, data collection, and the development of a clearinghouse to serve as a personnel and material resource.

385. Eight Michigan hospitals form audio-visual cooperative. Hosp. Top. 50:15-18, Nov. 1972.
(Michigan Hospital Audio-Visual Cooperative, southeastern Michigan)

386. Eleven hospital cooperative pools training. In-Serv. Training and Educ. 2:14, Oct. 1973.
(Coordinated Hospital Services, Inc., Knoxville, TN area)

387. Evaluation report shows that shared training can benefit hospitals and employees. Bull. Hosp. Educ. and Training. Feb. 1972, pp. 1,3.

A recent evaluation of the Health Careers Training Program of Brooklyn by the Hospital Research and Educational Trust concludes that "shared training is an effective means of providing hospital employees with increased opportunity to advance to better and more responsible positions." Advantages of the Brooklyn program, which initiated both centralized and inhospital programs, include improvement in skills and attitudes of trainees, improved employee relations, and greater employee loyalty. Eleven basic committments and conditions necessary for shared training to be successful are noted.

388. Evans, V. R. Continuing education in a metropolitan area. Supervisor Nurse. 5:24,28-29, Mar. 1974.
(Staff Development Council of Greater St. Louis)

389. Falck, V. T. GRO with continuing education. Tex. Med. 70:84-86, Sept. 1974.
(Texas Regional Medical Program, Project Grass Roots Organization)

390. Food handlers use phone for continuing education. Cross-Ref. 4:4-5, July 1974.
(Medical Products Systems Inc., Bartlesville, OK)

391. Gatzke, H. K., and Yenney, S. L. Hospitalwide education and training: definitions, purposes, models. Hospitals, J.A.H.A. 47:93-97, Mar. 1, 1973.

Examines the need for formalized, centralized, and coordinated education and training programs. Five alternative models for organizing such programs are presented, including a consortium model within which education and training are shared by several institutions.

392. Gelsinger, J. L. Dial L for lecture. In-Serv. Training and Educ. 3:8-10, 12,
(Lakes Area Regional Medical Program, Telephone Lecture Network, Buffalo)

393. Good neighbors work together: hospitals share training resources. Cross-Ref. 2:11, June 1972.

Providence and Bethesda hospitals in Cincinnati developed a joint nursing aide training program which has resulted in dollar savings for both hospitals. The program allowed more efficient use of training personnel and facilities at Bethesda's educational division and filled a manpower need at Providence, a newly opened hospital with personnel shortages.

394. Healey, L. A., and Friedrich, P. Health Services Consortium: good neighbor policy. Group Pract. 24:19-21,28, Mar.-Apr. 1975.
(Health Services Consortium, Seattle area)

395. Health care institutions share educational services: rural hospitals join in Project "RAISE." Bull. Hosp. Educ. and Training. No. 14:1-2, Nov. 1970.

In January 1970 a group of small health care institutions in west central Minnesota joined together in Project RAISE (Regional Approach to Improved Services through Education), a cooperative association which attempts to solve some of the problems of continuing education resulting from insufficient local resources and lack of accessibility to sources of up-to-date educational programs. The Project and its director of education work closely with local vocational schools to develop courses which meet specific needs of personnel in participating hospitals. A number of programs sponsored by the association are capsulized in this report including hospital accounting, nursing aide and management training, medical library workshop, emergency rescue procedures, and problems of stroke patients. The Project is totally supported by participating institutions which pay a share of the operating expenses based on the number of full-time employees. The participating hospitals and nursing homes have not begun purchasing food as a group and are considreing the use of a combined laundry service.

396. Hendee, W. R. A collaborative program in allied health training. J. Med. Educ. 46:658-665, Aug. 1971.
(Denver)

397. Hinson, J. W. Continuing education in a rural area. Supervisor Nurse. 4:29,32-33,36-37, Aug. 1973.

Case study of the Northeast Texas Council of Health Resources which was organized by 12 small rural hospitals and incorporated in 1971. The Coordinator of Health Services Education describes the implementation of the program which initially placed emphasis on upgrading nursing departments. Various workshops and seminars, many of which involved the cooperation of outside institutions, are briefly described and the benefits derived from the shared training program are noted.

398. Hospital group makes effective use of TV educational system. Assn. Manage. 27:11-12, Feb. 1975.
(Greater Cleveland Hospital Association)

399. Hospital Research and Educational Trust. Evaluating results. In: Hospital Research and Educational Trust. Training and Continuing Education: A Handbook for Health Care Institutions. Chicago: HRET, 1970, pp. 221-252.

400. _____. Supervisory Training: The University, the Community College and the Hospital. Chicago: HRET, 1971.

Reports the efforts of a project conducted by the University of Minnesota in collaboration with five community colleges to offer supervisory training to hospital personnel.

401. The hot line to dietary. Hosp. and Nurs. Home. 6:24-28, Apr. 1970.
(Regional Medical Program of Western New York)

402. Howell, D. L. The cooperative approach in supervisory training. Personnel. 47:57-62, Jan.-Feb. 1970.
(Annotation, 560)

403. Husted, F. L. Regional solution given for national problem. Penn. Med. 76:54-56, Mar. 1973.
(Area Health Education Centers, Pennsylvania)

404. Jones, K. B. Shared social services in the Northwest. Hosp. Soc. Work Directors Bull. 37:3, Nov.-Dec. 1973.
(Annotation, 166)

405. Keyes, F. Pooling health training facilities in Newark, New Jersey. Amer. J. Public Health. 64:144-147, Feb. 1974.

The Allied Health Task Force of the Council for Higher Education in Newark (CHEN) was formed to encourage faculty and staff at the four member teaching institutions to think and plan in terms of new and cooperative allied health offerings. The Allied Health Planner of the Council details the strengths and weaknesses of the present program and makes recommendations for its future operation. The report includes a checklist against which the task force examined allied health jobs and professions in relation to the special problems and needs of Newark. The author evaluates the New Jersey Health Professions Master Plan and examines its relationship to the CHEN Allied Health Task Force planning activities. Proposals include establishing more cooperative curricular offerings; focusing on an extended geographic area; establishing a clearinghouse for information on health careers, courses and licensure; focusing concern on problems on the periphery of allied health responsibilities such as the high incidence of alcoholism, rat bite, juvenile delinquency, lead poisoning, and so forth; and expanding the representative nature of the task force to include more consumer representatives, blacks, young people, aged, and representatives of business and industry. Guidelines for assuring optimum input of the expanded task force are provided.

406. King, P. J. A cooperative approach to hospital-management education. Mich. Hosp. 9:20-21, June 1973.
(Hospital Training Resources Group, east side of Detroit)

407. ______. A shared hospital management development program. J. Continuing Educ. in Nurs. 4:31-33, Mar.-Apr. 1973.
(Hospital Training Resources Group, east side of Detroit)

408. LeBoutillier, P. SHIP: shared hospital in-service program. J. Continuing Educ. in Nurs. 3:31-33, July-Aug. 1972.
(southwest Minnesota)

409. Lewis, H. L. Hospitals as classrooms. Mod. Healthcare. 2:57-61, Oct. 1974.
(area health education centers)

410. Melick, B. A community plan for coronary care. Amer. J. Nurs. 70:1069-1070, May 1970.

An International Coronary Care Committee was organized in May 1966 in Jacksonville, FL "to establish similarity of equipment among hospitals and to organize interhospital teaching programs for physicians and nurses." The Committee, which was made up of representatives including the chief of medicine from each hospital, worked closely with nurse supervisors to develop a two-week training program for nurses interested in coronary care. The program now includes an ongoing basic course offered four times a year.

411. Mundt, E. L. Four shcools--one in-service program. Amer. J. Nurs. 70: 1519-1520, July 1970.
(Community Organization of Facilty In-Service, Chicago)

412. ______. Lighting the candle--an experiment in cooperative continuing education. J. Nurs. Admin. 1:37-44, Jan.-Feb. 1971.
(Community Organization of Faculty In-Service, Chicago)

413. Munshaw, P. K. Some kind of involvement. J. Continuing Educ. in Nurs. 2:42-45, Nov.-Dec. 1971.
(Lansing, MI)

414. New role for hospital libraries: community health learning centers. Cross-Ref. 1:9, Oct. 1971.

The Intermountain Regional Medical Program (IRMP) is cooperating with state hospital associations and individual hospitals in building a network of community health learning centers. The centers bring local focus to many of the continuing education activities of the IRMP by making available audiovisual materials and other resources useful for sponsoring workshops and seminars, in addition to traditional printed matter. In each of the communities a physician medical education coordinator guides the continuing education effort.

415. Perrine, G., and Boudreau, Sister M. C. C.C.U. nurse specialists. Hospitals, J.A.H.A. 44:49-52, Mar. 1, 1970.
(Nassau County, New York)

416. Rode III, E. A. Shared training becomes a reality. Hospitals, J.A.H.A. 47:149,152-155, Mar. 1, 1973.

Case study of nine Kansas City (KS) hospitals which signed a one-year contract with the Kansas City Board of Education to use a local vocational-technical school for training nursing assistants. The program was initiated by a training and education subcommittee charged by the Kansas City Area Hospital Association to seek ways to coordinate the training efforts of hospitals, schools, and other agencies. The Committee developed a common curriculum, selected teaching materials, and established and evaluated a trial training program at the vocational-technical school before the hospitals signed the contract. The present program and plans for expansion are described. Advantages of the program include horizontal job mobility (all graduates are recognized as competent by all hospitals), vertical job mobility (the state nursing board has approved the course for credit toward completion of the LPN course offered by the school), and a decrease in and leveling off of the turnover rate, which formerly approached 70 percent. In addition, advertising expenses formerly borne by individual hospitals have been significantly reduced. Savings of approximately $350 per student trainee were realized and nearly 4,500 hours of instruction time have been freed for more essential activities.

417. Ross Jr., A., and Boyle Jr., R. L. Urban-rural exchange programs. Hospitals, J.A.H.A. 46:55-59, July 16, 1972.
(Virginia Mason Hospital, Seattle)

418. Seattle's consortium for education. Mod. Healthcare. 1:120-121, Apr. 1974.
(Health Services Consortium, Seattle area)

419. Simmons, J. C. Social work program meets hospitals' unique needs. Hospitals, J.A.H.A. 49:64-66, Feb. 16, 1975.

420. Training goes underground. Mod. Healthcare. 2:49-52, Oct. 1974.
(Memorial Hospital Medical Center of Long Beach, CA and University of California at Irvine Center for Health Education)

421. Twelve institutions form educational corporation. Cross-Ref. 2:1-4, Dec. 1972.
(Association for Continuing Education, Great Bend, KS area)

422. Vaun, W. S. Types of associations: the continuing education association. Assn. for Hosp. Med. Educ. J. 5:33-35, 1972.
(Regional Council on Continuing Education)

TAX AND LEGAL

The published information on tax and legal issues of shared services is not very extensive. It is expected that this situation will change as sharing increases and as health care regulations are promulgated. The following references represent discussions of the topic rather than legal resolutions of problems.

423. Answers to questions involving the tax exempt status of hospitals that establish a cooperative laundry service; and a hospital which establishes its own laundry facilities and sells the service to other hospitals. Newsletter Soc. Hosp. Attorneys (Supplement). 3:2-3, Feb. 1970.

An examination of relevant sections of the Internal Revenue Code which concern tax exempt status and which describe or specify the kinds of services exempt from federal income tax. A question and answer format is used to illustrate the application of the code to various forms of cooperative and purchased laundry services.

424. Bernstein, A. H. Taxing hospital real estate. Hospitals, J.A.H.A. 43: 201-202,205, Apr. 1, 1969.

Reviews recent litigation--Hospital Purchasing Service of Michigan v. City of Hasging, 161 N.W.2d 759 (MI App., 1968) and Children's Hospital Medical Center v. Board of Assessors of Boston, 227 N.E.2d 908 (MA, 1967)--concerning the tax exempt status of not-for-profit hospitals which create a not-for-profit organization to perform purchasing, laundry, and other functions.

425. Coldewey, G. T. Shared laundry service. Hospitals, J.A.H.A. 44:18, June 1, 1970.

Examines the tax-exempt status of a joint venture, shared laundry operation, when laundry services are sold to a third institution.

426. Commercial/in-plant battle brewing in Milwaukee. Amer. Laund. Digest. 40:46,49, May 15, 1975.

427. Commercial laundries block construction of central. Amer. Laund. Digest. 40:44, Jan. 15, 1975.
(Virginia Hospital Laundry, Inc., Richmond, VA)

428. Court denies revenue bonds for shared laundry service. Hospitals, J.A.H.A. 49:107-108, Feb. 16, 1975.
(Richmond, VA)

429. Holland, D. C. Legal and tax aspects of shared services. In: American Hospital Association. Shared Services in Health Care Institutions. Chicago: AHA, 1975, pp. 11-16.

Author reviews the legal forms of organization for shared service ventures--business corporation, not-for-profit corporation, cooperative, joint venture, and contractual arrangement--with particular attention to limitations of liability, tax consequences, Medicare reimbursement considerations, antitrust problems, and miscellaneous legal problems including control of the shared services organization, risk sharing, and distribution of assets in the event of liquidation.

430. Horty, J. F. New tax and liability rulings affect hospitals. Mod. Hosp. 111:54,56, Dec. 1968.

431. Manke, T. The legal and legislative considerations facing shared services organizations. In: Midtown Hospital Association. Health Organizations Shared Services; proceedings of a conference. Denver: Midtown Hospital Association, 1972, pp. 164-168.

432. Melton, H. W. Legal Constraints in the Design of Computer-Based Medical Information Systems. Evanston, IL: Northwestern University, 1972.

433. Ross Jr., A. and Zoellick, R. F. A shared central service department. Hospitals, J.A.H.A. 44:64,66,68,106, Sept. 1, 1970.
(Virginia Mason Hospital and Doctors Hospital, Seattle)

434. Tuthill, J. P. Qualifying as a tax-exempt cooperative hospital service organization. Notre Dame Lawyer. 50:448-456, Feb. 1975.

Author provides a history, a summary, and a detailed analysis of section 501(e) of the Internal Revenue Code.

435. Virginia shared laundry service target of antitrust suits. Hospitals, J.A.H.A. 48:17, Nov. 1, 1974.
(Virginia Hospital Laundry, Inc., Richmond, VA)

Recent Cases:

436. United Hospital Services, Inc. v. United States of America, 384 F.Supp. 776 (S.D.Ind. 1974)

437. Hospital Purchasing Service of Michigan v. City of Hastings, 161 N.W.2d 759 (Mich. Ct. App. 1968)

438. Cardinal Industrial Laundry Corporation v. Industrial Development Authority of the City of Richmond, Virginia, and Virginia Hospital Laundry, Inc., Civil No. 74-0413-R (ED.Va., filed Sept. 24, 1974)

ORGANIZATION BEHAVIOR

The study of how organizations behave is an emerging discipline in sociology and in business administration. Its application to the health care field has been uneven to date, but it is expected that the discipline will in time make a significant contribution to health delivery. The references cited here are but a sampling, chosen for their immediate relevance to shared services.

439. Aiken, M., and Hage, J. Organizational interdependence and intraorganizational structure. *Amer. Soc. Rev.* 33:912-930, Dec. 1968.

440. Bennis, W., and others. *The Planning of Change*. New York: Holt, Rinehart and Winston, 1961.

441. Bieter, J. T. Four options for cooperation: implications for Catholic hospitals. *Hosp. Progr.* 51:64-65,101, Mar. 1970.
(Annotation, 19)

442. Blau, P. M., and Scott, W. R. *Formal Organizations*. San Francisco: Chandler Publishing Company, 1962.

443. Chowins Jr., R. D. A study of the attitudes of small Minnesota hospitals toward regional cooperative arrangements. Master's thesis, University of Minnesota, Minneapolis, 1971.

444. Cihlar, C. Hospitals can and do cooperate. *Hospitals, J.A.H.A.* 48: 67-69, June 1, 1974.

445. Crews, J. C. Human concerns about hospital mergers. *Hospitals, J.A.H.A.* 48:79-83, June 1, 1974.

446. Evan, W. M. The organization-set: toward a theory of interorganizational relations. In: Thompson, J. C., editor. *Approaches to Organizational Design*. Pittsburgh: University of Pittsburgh Press, 1966.

447. Franklin, C. L. The urban multi-hospital system: necessary conditions. *Hosp. Admin.* 16:25-35, Winter 1971.

448. Georgopoulos, B. S., and Mann, F. C. *The Community General Hospital*. New York: The Macmillan Co., 1962.

A classic work which examines some of the key characteristics and organizational problems of the community general hospital.

449. Georgopoulos, B. S., and Matejko, A. The American general hospital as a complex social system. *Health Serv. Res.* 2:76-112, Spring 1967.

450. Hahn, C. K., and Hardy, S. T. Factors affecting accpetance of a hospital group purchasing program. *J. Purchasing*. 8:54-68, Aug. 1972.

451. Heydebrand, W. V. *Hospital Bureaucracy: A Comparative Study of Organizations*. New York: Dunellen, 1973.

452. Johnson, R. L. Governance seen as weak link. Hospitals, J.A.H.A. 48:47-50, June 1, 1974.

Author examines the administrative problems which can result when managers or administrators of participating institutions form the board of a shared services organization.

453. McGrath, J. H. The reaction of physicians to merging of Wilmington (DE) hospitals: an initial report. Delaware Med. J. 41:113-117, Apr. 1969.

454. ______, and others. Factors associated with the physician's vote on the Wilmington (DE) Hospital merger. Delaware Med. J. 42:35-40,47, Feb. 1970.

455. March, J., editor. Handbook of Organizations. Chicago: Rand McNally, 1965.

456. Neuhauser, D. Organizational Behavior Literature in Health Administration Education: An Indexed and Annotated Bibliography of Books in Use by Graduate Programs in Hospital and Health Administration. Washington, DC: Association of University Programs in Hospital Administration, 1972.

457. ______. The Relationship Between Administrative Activities and Hospital Performance. Chicago: Chicago Center for Health Administration Studies, University of Chicago, 1971.

458. Perrow, C. Hospitals: technology, structure, and goals. In: March, J., editor. Handbook of Organizations. Chicago: Rand McNally, 1965, pp. 910-971.

459. Quay, J. G. Efficiency vs. individual needs: dialectic of organization change. Advanced Manage. J. 32:73-76, Apr. 1967.

460. Regan, W. A. Corporate responsibility vs. institutional autonomy. Hosp. Progr. 53:621, Dec. 1972.

461. Rogers, E. M. Diffusion of Innovation. East Lansing, MI: Michigan State University Press, 1962.

462. Roos, N. P., and others. Hospital performance: analyzing power and goals. J. Health and Soc. Behav. 15:78-92, June 1974.

Three types of hospitals that deliver short-term health care are discussed in terms of several difference models of hospital behavior. The structure-specialization model emphasized hospital control structure as a determinant of goal emphasis, while the exchange model stressed the interdependencies between the organization and essential resource suppliers in its environment. In so far as the models differed, the exchange model was supported by aggregate data (obtained from the American Hospital Association). Additionally, a competence model emphasizing the possibility that certain hospital types may perform relatively well on several dimensions was partially confirmed. Suggestions are forwarded for future research along these lines. (Journal summary)

463. Rosner, M. M. Economic determinants of organizational innovation. Admin. Sci. Quart. 12:614-625, Mar. 1968.

464. Rothman, R. A., and others. Physicians and a hospital merger: patterns of resistance to organizational change. J. Health and Soc. Behav. 12: 46-55, Mar. 1971.

465. Schein, E. H. The merger as an organizational process. J. of Applied Behav. Sci. 7:110-111, Jan.-Feb. 1971.

466. Schermerhorn Jr., J. R. Determinants of interorganizational cooperation: theoretical synthesis and an empirical study of hospital administrators' felt needs to cooperate. Ph.D. dissertation, Northwestern University, Evanston, IL, 1974.

467. Schnepple, G. R. Rural-urban hospital partnerships--a study of voluntary hospital regionalization. Master's thesis, University of California, Berkeley, 1973.

Study investigates the shared-service model as a method for coordinating medical care throughout sparsely populated rural areas. Examines both environmental and institutional factors which lead either to interdependence or to autonomy. Discusses the organizational costs and benefits of regionalized hospital networks and examines the technical, managerial, and institutional ramifications of such arrangements. A number of evolutionary organizational patterns are proposed and alternative models for development of a shared service network are considered.

468. Shimp, I. G. A pilot study to determine consensus among and between influential groups for sharing and implementing certain hospital services by members of Associated Capital Hospitals, Inc. Master's thesis, University of Minnesota, Minneapolis, 1971.

469. Simon, H. A. Administrative Behavior. 2nd edition. New York: Free Press, 1965.

470. Soltis, R. J. Systematic approach to managing change. Manage. Rev. 59: 2-11, Sept. 1970.

471. Starkweather, D. B. Health facility mergers: some conceptualizations. Med. Care. 9:468-478, Nov.-Dec. 1971.
(Annotation, 11)

472. Strathy, R. D. The "people" aspect of a merger. Hospitals, J.A.H.A. 45:39-41, Nov. 1, 1971.

473. Terenzio, J. V. Sharing professional services. Hosp. Forum (New York). 41:5-6,15, Mar. 1973.
(Annotation, 144)

474. Thompson, J. Organizations in Action. New York: McGraw-Hill, 1967.

475. Veney, J. E., and Khan, J. Causal paths in elaboration of organizational structure: a case of hospital services. Health Serv. Res. 8:139-150, Summer 1973.

Elaboration or change in hospital services is examined as a function of three classes of variables: contextual (characteristics of the environment), structural (characteristics of the hospital itself), and characteristics of the administrator. Possible causal paths in the flow of change forces are posited and examined by a recursive technique to determine the model that most nearly approximates reality. It is concluded that elaboration of structure within a hospital is primarily a function of the context and structure, but a smaller independent force is a function of the context and the administrator himself. (Journal summary)

476. White, P. E., and Vlasak, G. L., editors. Inter-Organizational Research in Health; conference proceedings, January 1970, New York City. Washington, DC: National Center for Health Services Research and Development. (Annotation, 85)

ECONOMICS

This brief section on hospital and health services economics is included in the bibliography in the hope that those readers with some training in economics can see the problems of applying this discipline to shared services. The less-trained reader could well benefit from a study of some of these source documents.

477. ARA Hospital Food Management. Conversations: Hospital Efficiency Through Economies of Scale. Philadelphia: ARA Hospital Food Management, 1971.

478. Baligh, H. H., and Laughhunn, D. J. An economic and linear model of the hospital. Health Serv. Res. 4:293-303, Winter 1969.

479. Berki, S. E. Hospital Economics. Lexington, MA: D.C. Heath and Co., 1972.

480. Berry Jr., R. E. Product heterogeneity and hospital cost analysis. Inquiry. 7:67-75, Mar. 1970.

481. ______. Returns to scale in the production of hospital services. Health Serv. Res. 2:123-139, Summer 1967.

The primary purpose of this article is to investigate whether or not economies of scale exist in the production of hospital services. In previous studies the results have implied the existence of economies of scale, but the question has not been satisfactorily resolved. The factor most responsible for clouding the issue is the overwhelming prevalence of product differences in the outputs of hospitals. In this study a method which avoids the problem of product differentiation is developed. The analysis strongly supports the conclusion that hospital services are produced subject to economies of scale. (Journal summary)

482. Brown, R. E., editor. Economies of Scale in the Health Services Industry; proceedings of an invitational seminar, May 10-12, 1971, Chicago. Rockville, MD, National Center for Health Services Research and Development.

DHEW Pub. No. (HSM) 73-3009. /Reproduced and distributed by National Technical Information Service, Springfield, VA, 1972/ (Annotation, 82)

483. Brown Jr., M. An economic analysis of hospital operations. *Hosp. Admin.* 15:60-73, Spring 1970.

484. Carr, W. M., and Feldstein, P. J. The relationship of cost to hospital size. *Inquiry*. 4:45-65, June 1967.

485. Feldstein, M. S. *Economic Analysis for Health Service Efficiency*. Amsterdam: North-Holland Publishing Co., 1967.

486. _____. *The Rising Cost of Hospital Care*. Washington, DC: National Center for Health Services Research and Development, 1971.

487. Feldstein, P. Applying economic concepts to hospital care. *Hosp. Admin.* 33:68-89, Winter 1968.

488. Griffith, J. R., and others. Practical ways to contain hospital costs. *Harvard Bus. Rev.* 51:131-139, Nov.-Dec. 1973.

489. Harris, S. *The Economics of American Medicine*. New York: Macmillan Co., 1964.

490. Hefty, T. R. Returns to scale in hospitals: a critical review of recent research. *Health Serv. Res.* 4:267-280, Winter 1969.

Because the marketplace that ensures efficiency in a competitive industry is inoperative in the provision of hospital services, planning of the size and distribution of facilities by an external authority is developing as a substitute for competitive pressures. Planners must consider the potential effective demand for facilities and the costs of providing the services. Many of the costs are external to the hospital, but of major importance is the relation between hospital costs and the scale of output, called "returns to scale" or "economies of scale." This article reviews the progress that has been made in the study of economies of scale in hospitals, finding that historically the long-run average cost curve appears to be U-shaped, with minimum average costs at the level of 200-300 beds. Empirical studies however, do not exclude the possibility of an L-shaped curve, as in other industries. (Journal summary)

491. Klarman, H. E., editor. *Empirical Studies in Health Economics: Proceedings of the Second Conference on the Economics of Health*. Baltimore: Johns Hopkins University Press, 1970.

492. Lave, J. R. A review of the methods used to study hospital costs. *Inquiry*. 3:57-81, May 1966.

This paper is a survey of the ways that hospital costs have been measured and analyzed. Section one mentions two problems which face researchers: the inability to measure the hospital's product and data limitations. A classification of costs is introduced for use in later analysis. Section two enumerates the factors most often cited as important in causing the increase in hospital costs over time. Some of the methods that have been

used to determine the relative importance of each factor in contributing to the increase in costs are examined. Section three focuses on studies that have analyzed the variation in costs among hospitals. Particular attention is given to two studies in which a new measure of output is constructed. Section four summarizes the results and enumerates suggestions for further research. (Journal summary)

493. ______, and others. Hospital cost estimation controlling for case-mix. *Applied Econ.* 4:165-180, Sept. 1972.

494. ______, and Lave, L. B. Hospital cost functions. *Amer. Econ. Rev.* 60:379-395, June 1970.

495. Lee, M. L. A conspicuous production theory of hospital behavior. *Southern Econ. J.* 38:48-58, July 1971.

496. ______, and Wallace, R. L. Problems in estimating multi-product cost functions: an application to hospitals. *Western Econ. J.* 11:350-363, Sept. 1973.

497. Mann, J. K., and Yett, D. E. The analysis of hospital costs: a review article. *J. Bus.* 41:191-202, Apr. 1968.

498. Newhouse, J. P. Toward a theory of nonprofit institutions: an economic model of a hospital. *Amer. Econ. Rev.* 60:64-74, Mar. 1970.

499. Pauly, M. V., and Redisch, M. The not-for-profit hospital as a physician's cooperative. *Amer. Econ. Rev.* 63:87-100, Mar. 1973.

500. Rice, R. Analysis of the hospital as an economic organism. *Mod. Hosp.* 106:87-91, Apr. 1966.

PROCESS-ORIENTED STUDIES

Most case studies cited in this bibliography include some discussion of the planning, implementation, or evaluation of a particular shared service. In many cases the information is anecdotal and little detail is given; in others, the specifics may have little applicability to other situations. This section of the bibliography is primarily a convenience; it attempts to bring together selected articles which emphasize one or more of these administrative processes and which are felt to be a useful starting point for those considering the initiation or evaluation of a shared service. The boundaries of these processes are not distinct in practice and the literature reflects this situation. For the purposes of this bibliography, articles which focus on analyzing needs or determining the potential for sharing are listed under planning. Articles which focus on a detailed analysis of alternative modes of sharing or which contain guidelines for analyzing sharing alternatives are listed under feasibility. Articles in the implementation section were chosen for their emphasis on procedures or problems involved in establishing a shared service or for their general applicability. The evaluation section consists of articles which are more rigorous than the usual case study in documentation of evaluation results or which emphasize the procedure of evaluation. The reader is urged to consult other sections of this bibliography--particularly the section on specific services or facilities--for information which may be relevant to a particular sharing situation.

PLANNING

501. American Hospital Association. Guidelines for Hospital Involvement in Comprehensive Health Delivery Systems. Chicago: AHA, 1973.
(Annotation, 14)

502. Andrew, W. F. Advantages of a shared computer. Hospitals, J.A.H.A. 45: 59-62, Nov. 16, 1971.
(Annotation, 531)

503. Ardell, D. B., and Holohean, M. The effective use of consultant services in comprehensive health planning. Health Serv. Rep. 88:902-907,

504. Bash, R. R. Feasibility of consolidating Durham County (NC) hospital laundries. Master's thesis, Duke University, Durham, NC, 1973.
(Duke Medical Center and Durham County Hospital Corporation)

505. Bloom, B. S., and others. Radiation therapy in New Hampshire, Massachusetts, and Rhode Island. New England J. Med. 286:189-194, Jan. 27, 1972.

506. Blum, H. L. Priority setting for problems, solutions, and projects by means of selected criteria. Int. J. Health Sci. 2:85-99, Feb. 1972.

507. Broomall, C. L. Why hospital changed from in-house to shared computer system. Hosp. Top. 50:20-22, Nov. 1972.
(Atlantic City (NJ) Hospital)

508. Catania, J. J., and Loucks, J. H. A hospital-based regional laundry. Hospitals, J.A.H.A. 44:62-65, Sept. 16, 1970.
(Annotation, 271)

509. Church, S. T. The cooperative laundry concept: it s not as costly as you think. Executive Housekeeper. 20:46,48,50,52, Apr. 1973.
(Annotation, 276)

510. ______. Cutting laundry costs--the central laundry concept. Executive Housekeeper. 21:36,48,50, Mar. 1974.
(Annotation, 277)

511. Franklin II, C. L. The urban multi-hospital system: necessary conditions. Hosp. Admin. 16:25-35, Winter 1971.

512. Freeman, J. R., and Zaldivar, M. F. A Generalized Model for Planning Shared Health Services (Technical Report no. 4). Gainesville: University of Florida, Health Systems Research Division, 1969.
(Annotation, 39)

513. Gal, K., and Hanok, A. Saving through centralization. Hospitals, J.A.H.A. 44:60-62,64-65, Dec. 1, 1970.

In order to determine the cost and potential savings of a central laboratory, a study was undertaken in 1969 to review the operation of an on-site laboratory at the hospital of the Albert Einstein College of Medicine in New York. The study was concerned mainly with direct laboratory costs, such as labor, salaries, reagents and supplies, equipment repair, and educational expenses. Study results are described and presented in three tables which show the distribution of components of direct labor costs as a percentage of the total cost for each section of the laboratory, and the relation between direct cost components and some typical hematology and chemistry tests. Technician labor was found to account for almost 40 percent of the total direct cost of operating the laboratory. The utilization of this labor is less than optimal because of unpredictable work flow, small batch processing, and other similar reasons. Furthermore, much technician time is spent on clerical duties which could be performed by computers if large volumes of tests were available for processing. The authors discuss in detail the potential savings and other benefits of central laboratory facilities and conclude that even when the central laboratory does not produce any actual savings compared with present laboratory systems, it would substantially improve several aspects of laboratory work without additional investment.

514. Health Services Research Center. Guidelines for Health Services Research & Development: Shared Services. Washington, DC: National Center for Health Services Research and Development. DHEW Pub. No. (HRA) 74-3023, 1972.
(Annotation, 44)

515. ______. Guidelines for shared laboratories. Part 2 of: Health Services Research Center, Consolidation of Clinical Laboratory Facilities: An Evaluation. Chicago: Health Services Research Center, 1974.
(Annotation, 571)

516. Howell, D. L. The cooperative approach in supervisory training. Personnel. 47:57-62, Jan.-Feb. 1970.
(Annotation, 560)

517. Hutton, D. H. A feasibility study of the southern tier of New York to determine the advantages of group purchasing. Master's thesis, Xavier University, Cincinnati, 1971.
(Annotation, 360)

518. Jappy, W. C. Discussion of factors involved when considering participation in a central laundry. Master's thesis, University of Toronto, Toronto, 1969.
(Centennial Hospital Linen Services, Inc., Toronto)

519. Katz, S. H., and others. Regionalization of laboratory services. Health Laboratory Sci. 10:287-293, Oct. 1973.

This paper reports the results of a task force study of clinical laboratory testing in various Pennsylvania Department of Public Welfare institutions. "The task force found that currently most laboratories are small and lack sufficient equipment and overall standards of methodology, quality control, personnel training and cost analysis.../and/ recommended that a regionalized laboratory system be established to service the institutional needs of four major geographic regions of Pennsylvania. Several organizational and implementation plans are discussed and projections are made on possible cost savings. Such a system would help solve the problems of quality, staffing, and equipment now apparent in many of the existing laboratories. In addition, a regionalized laboratory system could branch into other areas of delivery of health services while still reducing costs further and continuing to enhance the quality of services." (Journal summary)

520. Keyes, F. Pooling health training facilities in Newark, New Jersey. Amer. J. Public Health. 64:144-147, Feb. 1974.
(Annotation, 405)

521. Kretschmar, C. G., and Furst, R. W. Should your hospital join a shared laundry? Hospitals, J.A.H.A. 47:174,176,178,180,182,184, July 16, 1973.

522. Laverty, R. E., and Peterson, M. J. Development and application of a method for determining cost savings of sharing hospital services. Unpublished report, University of Michigan, Ann Arbor, MI, 1972.

The authors develop a model for use in determining potential cost savings of proposed hospital shared services or mergers. The model, which estimates only direct operating costs, is based on a five-step process which involves specifying the function or department to be merged or shared, identifying inputs, determining input capacity in terms of units of output, considering potential economies of scale, and determining estimated savings by pricing the inputs. The model is applied to pediatrics departments of two Jackson, MI hospitals.

523. Manson, J. J. One hospital undertakes study and two hospitals benefit. Mod. Hosp. 118:98-100, Feb. 1972.

524. Norgren, W. High-pressure technique pays off. Hospitals, J.A.H.A. 48:75-76, Aug. 16, 1974.
(Annotation, 129)

525. Oehnel, E. Central hospital laundries. Executive Housekeeper. 18:30,32, 34,36-38, Mar. 1971.

526. Picha, N. A study to determine the effectiveness of a shared (off-line) computer service in the management of accounts receivable in small Texas hospitals. Master's thesis, Baylor University, Waco, TX, 1972.
(Texas Hospital Association, Shared Hospital Accounts Receivable System)

527. Project RAISE. Regional Cooperation: A Design for Sharing among Health Care Institutions. 1971.
(Annotation, 61)

528. Rosenbaum, J. E. Hospital-based versus shared computer services for a 126-bed hospital in a rural setting. Thesis, American College of Hospital Administrators, Chicago, 1973.
(Idaho)

529. Smejda, H. A. Shared services. Hosp. Financ. Manage. 5:10-11,14-15,63, Mar. 1975.
(Annotation, 68)

530. Thorpe, L. R. Questions about time sharing. Hosp. Progr. 51:80,82,86-87, Feb. 1970.

FEASIBILITY

531. Andrew, W. F. Advantages of a shared computer. Hospitals, J.A.H.A. 45: 59-62, Nov. 16, 1971.

Description of the decision-making process which led the Lakeland General Hospital in Lakeland FL to choose a shared computer system over available alternatives. The hospital compared the advantages and disadvantages of its own data processing system with six alternatives: selecting a total hospital information system, sharing a large computer system with the city installing an in-house computer system, sharing a computer system with other hospitals, designing a computer system with consultant assistance, and sharing a computer system using a shared computer utility (time sharing). Lack of confidence in an in-house system, cost factors, time pressures, and interface requirements for the hospital's in-house laboratory information system were considerations which led to the decision to pursue investigation of time-shared computer systems. The evaluation of shared time computer systems involved further decisions centering around mode of data gathering, financial base of companies being considered, and comparison among available systems. The author describes the development and use of a comparison form which accommodated a detailed analysisof vendors by application.

532. ______. Guidelines for evaluation and selection of a shared hospital data processing system. Osteopathic Hosp. 16:5-12, Oct. 1972.

The author identifies many of the areas which should be considered in evaluating a data processing system. A checklist for analysis and comparison of data processing applications offered by various vendors is outlined and a method of analyzing this information is described. A sample "shared computer system evaluation sheet" and a list of "possible hospital data processing objectives" are provided.

533. ______. How to tell the correct time-saving. Mod. Hosp. 117:113-114, Nov. 1971.

The author offers checklists for use by hospitals which are considering the purchase of time on a vendor's centralized computer system. One checklist discriminates among vendors in the following areas: application costs; equipment; operating and miscellaneous costs; applications offered; equipment configuration; general considerations concerning the effects of a program on in-house needs of the hospital; and the content, frequency, and format of reports offered. The second checklist includes 10 general and more than 50 specific applications which should be available through a good shared hospital computer system. A spread sheet checklist is provided and alternative rating systems are described. Finally, the author furnishes a number of final checks on the preliminary analysis and ratings.

534. Biggs, E. L., and Farnham, J. B. Evaluating laundry alternatives. Hospitals, J.A.H.A. 44:130-131, Feb. 1, 1970.

535. Hammon, G. L., and Jacobs, S. E. Shared computer systems. Part 1. Hospitals, J.A.H.A. 44:50-53, May 1, 1970. Part 2. Hospitals, J.A.H.A. 44:72-76, May 16, 1970.

This detailed analysis of shared computer systems provides an examination of the characteristics of and differences among various kinds of hospital computer systems with special attention to system ownership, methods of communication with the data center, and advantages and disadvantages of shared computer systems. The authors provide a detailed methodology for evaluating shared computer systems based on applications offered, importance of applications support to hospital needs, overall marginal costs and savings, and qualitative factors concerning the shared computer system and its relationship with participating hospitals.

536. Harter, T. R. Can the joint venture save you money? Hosp. Financ. Manage. 25:34-35, Jan. 1971.

537. Health Services Research Center. Guidelines for Health Services Research & Development: Shared Services. Washington, DC: National Center for Health Services Research and Development. DHEW Pub. No. (HRA) 74-3023, 1972. (Annotation, 44)

538. ______. Guidelines for shared laboratories. Part 2 of: Health Services Research Center. Consolidation of Clinical Laboratory Facilities: An Evaluation. Chicago: Health Services Research Center, 1974. (Annotation, 571)

539. Hospital Association of New York State. Shared Services Program. Present vs. Proposed vs. Benchmark Laundry and Linen Service: Cost Comparison Procedure. Albany: Hospital Association of New York State, Feb. 1972.

540. ______. Shared Microfilming Cost Feasibility Analysis. Albany: Hospital Association of New York State, Nov. 1971.

541. ______. *Shared Services: Analysis of Functional Alternatives*. Albany: Hospital Association of New York State, Mar. 10, 1972.

542. Hutton, D. H. A feasibility study of the southern tier of New York to determine the advantages of group purchasing. Master's thesis, Xavier University, Cincinnati, 1971.
(Annotation, 360)

543. Lehman, A., and Weinstein, A. D. Shared services in collection led to savings, efficiency. *Hosp. Financ. Manage.* 27:22,24-28, Aug. 1973.
(Annotation, 226)

544. Massachusetts Hospital Association. *Feasibility of Shared Drug-Related Functions*. Burlington, MA: Massachusetts Hospital Association, Management Systems Planning, 1971.

545. Perla, G. G. Purchasing shared computer services. *Hospitals, J.A.H.A.* 47:70-71, Aug. 16, 1973.

Before purchasing a shared computer service, a hospital should develop a clear idea of what type of computer service is desired by specifying its needs in terms of output and by specifying its limitations in terms of cost. Specifications should be sent next to a broad distribution of vendors who may be able to meet the requirements. After the bidding is closed, a final task is to compare bids and vendors. The author advises comparison of the total cost of the various systems rather than charges quoted in the bids, close attention to the details of the system being offered, and close attention to the characteristics of the specific vendor.

546. Reising, J. H. A unitary medical record data base in Forsyth County, North Carolina. Master's thesis, Duke University, Durham, NC, 1972.
(Annotation, 330)

547. Rosenbaum, J. E. Hospital-based versus shared computer services for a 126-bed general hospital in a rural setting. Thesis, American College of Hospital Administrators, Chicago, 1973.
(Idaho)

548. Smejda, H. A. Shared services. *Hosp. Financ. Manage.* 5:10-11,14-15,63, Mar. 1975.
(Annotation, 68)

549. Soder, E. Service bureau vs. in-house computer. *Hosp. Financ. Manage.* 26:22,27, Jan. 1972.

Using an accounts receivable operation as an example, the author illustrates the steps involved in making a comparison between in-house and service bureau computer systems. First, the current operation must be analyzed and broken into component tasks. For each task, the hospital must then determine: staffing requirements; work load peak, work flow, and volume statistics; facility and space requirements; files, reports, and forms used and prepared and the frequency of their use. From this assessment the hospital can define the proposed computer procedure in terms of input documents, output reports, computer master files, and work flow for each of the areas reviewed. If there is a service bureau package which meets the specifications of the system, a further comparison must be made based on personnel and equipment requirements and other projected costs of in-house and service bureau systems such as space, supplies, utilities, and so forth. A preliminary decision can then be made based on the cost comparison but may be revised after consideration of external factors including the following: possible support from a service bureau in systems development and conversion, flexibility of either system for program modification and future growth, availability of skilled manpower, required speed of installation, possible loss of autonomy in establishing priorities if a shared system is selected, and the experience of other users with packages of service bureau systems.

550. Which type of laundry service is best for you? Hospitals, J.A.H.A. 47: 64-65, Aug. 16, 1973.

Outlines a methodology for use in evaluating various options for a hospital laundry service. The methodology enables each hospital to use its own particular requirements as criteria for comparing and evaluating advantages and disadvantages of inplant laundries, cooperative central laundries, and commercial laundry services.

IMPLEMENTATION

551. Barn raising comes to health education. In-Serv. Training and Educ. 3: 13-14,21-22,26, Aug. 1974.
(Regional Approach to Improved Service Through Education, west central Minnesota)

552. Bickers, C. R. Implementation of a shared computer accounting system for hospitals. Osteopathic Hosp. 18:7-11, Mar. 1974.
(Bay View Hospital, Bay Village, OH)

553. Doody, M. F. Guidelines for implementing cooperative programs. Hospitals, J.A.H.A. 48:55-58, June 1, 1974.
(Annotation, 34)

554. Evaluation report shows that shared training can benefit hospitals and employees. Bull. Hosp. Educ. and Training. Feb. 1972, pp. 1-4.
(Annotation, 387)

555. Fifer, W. R., and Ellsworth, S. J. A shared medical audit program for small hospitals--meeting the demands for accountability. Hosp. Med. Staff. 3:1-10, Oct. 1974.
(Annotation, 329)

556. Goudreau, W. J., and Lowery, G. E. Shared services--a new involvement for hospital administration. Mich. Hosp. 10:4-7,26, Feb. 1974.
(Annotation, 41)

557. Health Services Research Center. Guidelines for Health Services Research & Development: Shared Services. Washington, DC: National Center for Health Services Research and Development. DHEW Pub. No. (HRA) 74-3023, 1972.
(Annotation, 44)

558. _____. Guidelines for shared laboratories. Part 2 of: Health Services Research Center. Consolidation of Clinical Laboratory Facilities: An Evaluation. Chicago: Health Services Research Center, 1974.
(Annotation, 571)

559. Hospital Association of New York State. Shared Services Program. Increasing Shared Services Effectiveness by Setting Up a Joint Ventures Corporation. Albany: Hospital Association of New York State, 1971.

560. Howell, D. L. The cooperative approach to supervisory training. Personnel. 47:57-62, Jan.-Feb. 1970.

The author outlines basic steps in setting up a cooperative supervisory training program including initiating the concept; exploring the concept; formation of an advisory group; establishing the program content; arranging for facilities, financial support, and instructional staff; and performing continuing evaluation. Each step is illustrated by an example.

561. Killenberg, G. A. Hospital financial problems. Hosp. Top. 49:56, Oct. 1971.

The author describes accounting records which should be established to divide shared laundry costs equitably.

562. Pertl, D., and Giancola, D. Shared laundry service: development, problems, and needed directions. Trustee. 27:25-31, May 1974.

563. Project RAISE. Regional Cooperation: A Design for Sharing Among Health Care Institutions. 1971.
(Annotation, 61)

564. Ross Jr., A., and Zoellick, R. F. A shared central service department. Hospitals, J.A.H.A. 44:64,66,68,106, Sept. 1, 1970.
(Virginia Mason Hospital and Doctors Hospital, Seattle)

565. Schilling, G. W. Cost containment through sharing. Hospitals, J.A.H.A. 49:48-51, Jan. 16, 1975.
(Affiliated Hospital Services, Inc., Minneapolis-St. Paul)

566. Schweid, P. Co-ops: they're catching on. Hospitals, J.A.H.A. 46:106-108, 111-112, Mar. 16, 1972.

567. Skarupa, J. A. Financing shared services programs in a multihospital system. In: American Hospital Association. Shared Services in Health Care Institutions. Chicago: AHA, 1975, pp. 17-24.

568. Smejda, H. A. Shared services. Hosp. Financ. Manage. 5:10-11,14-15,63, Mar. 1975.
(Annotation, 68)

569. Taylor, R. A. Financing a cooperative hospital laundry. Hospitals, J.A.H.A. 46:108,110-111, Aug. 16, 1972.

The author outlines the problems involved in financing a cooperative undertaking under the traditional approach embodied in the "service-at-cost" principle. He proposes an alternative method of finance which is based on the revolving capital plan adopted by agricultural cooperatives. The proposed revolving capital method of finance is described in detail. Advantages of this method are that it keeps capital contributions in proportion to each member's use of the facilities, it makes provisions for additions and withdrawals of capital by individual hsopitals, and it provides the incentives necessary to maintain the cooperative nature of the venture.

EVALUATION

570. Campbell, D. T., and Stanley, J. C. *Experimental and Quasi-Experimental Designs for Research*. Chicago: Rand McNally, 1966.

571. Health Services Research Center. *Consolidation of Clinical Laboratory Facilities: An Evaluation*. Chicago: Health Services Research Center, 1974.

This evaluation of the consolidation of clinical laboratories within the Northwestern Memorial Hospital is in two parts. Part 1 includes an organizational evaluation, a cost evaluation, and a quality evaluation, each with detailed explanations of evaluation research methodologies. Part 2, "Guidelines for Shared Laboratories," is intended to assist others who are considering some form of centralized laboratory service. It includes an examination of definitions of laboratory sharing, an enumeration of factors contributing to increased laboratory sharing, and a discussion of the advantage and disadvantages of laboratory sharing. The guidelines also include: a detailed outline of primary areas of deliberation which should precede an agreement to share; an examination of the elements of analysis in evaluating shared laboratory services in terms of cost, administrative effectiveness, and quality; and an outline of a plan of action for laboratory sharing which details the activities pertinent to the planning, feasibility, implementation, and evaluation phases of the program.

572. ______. *Guidelines for Health Services Research & Development: Shared Services*. Washington, DC: National Center for Health Services Research and Development. DHEW Pub. No. (HRA) 74-3023, 1972.
(Annotation, 44)

573. Hospital Research and Educational Trust. Evaluating results. In: Hospital Research and Educational Trust. *Training and Continuing Education: A Handbook for Health Care Institutions*. Chicago: HRET, 1970, pp. 221-252.

574. Hospital Research and Educational Trust to develop methods to evaluate shared services. *Hospitals, J.A.H.A.* 49:96, Jan. 1, 1975.

575. Huey, J. P. System cost--old vs. Medical Information System. *Tex. Hosp.* 26:20-11, Sept. 1970.

576. Lehman, A., and Weinstein, A. D. Shared services in collection led to savings, efficiency. *Hosp. Financ. Manage.* 27:22,24-28, Aug. 1973.
(Annotation, 226)

577. Litman, T. J., and others. A Demonstration of Reducing Hospital Costs by Sharing Services. Minneapolis: Health Manpower Management, Inc., 1969.

578. Ludwig, P. E. Cost saving and other measures of shared service effectiveness. In: American Hospital Association. Shared Services in Health Care Institutions. Chicago: AHA, 1975, pp. 25-32.

Five approaches to evaluation of shared services are presented: the feasibility study, use of standards of performance, use of objective criteria, use of a generalized model, and use of a revenue impact analysis.

579. Martin, J. C., editor. Evaluation Methodologies for Shared Services in the Health Care Field; proceedings of a seminar, Dec. 2-4, 1974, Montreal. Montreal: Montreal Joint Hospital Institute, 1975.
(Annotation, 83)

580. Scardino, V., and Deppisch, L. M. Laboratory centralization answer to volume explosion. Hospitals, J.A.H.A. 47:50-53, July 1, 1973.
(Annotation, 139)

581. Schulberg, H. C., and others. Program Evaluation in the Health Fields. New York: Behavioral Publications, 1969.

Contains 35 articles in five sections: (1) Concepts and general issues (2) Research designs (3) Evaluation techniques and indexes (4) Examples of program evaluation and (5) Implementing research findings.

582. Suchman, E. A. Evaluative Research: Principles and Practice in Public Service and Social Action Programs. New York: Russell Sage Foundation, 1967.

583. Weimer, W. C. Group activity among hospitals, an analysis of the paramedical service center. Master's thesis, Xavier University, Cincinnati, 1970.
(Ohio Department of Medical Hygiene and Correction, Paramedical Service Center)

RURAL AND SMALL HOSPITALS

In recent years, the problems of rural and small hospitals have undergone national scrutiny. At the same time, the mechanism of shared services has been employed by enough of these hospitals to indicate that such linkages may offer real solutions to some of the problems of the small or rural institution.

584. Administrator loaned to rural hospital. Hospitals, J.A.H.A. 46:59, July 16, 1972.
(University of Wisconsin Hospitals and Community Memorial Hospital, Wisconsin)

585. An alliance for sharing. Hospitals, J.A.H.A. 47:51-53, Dec. 16, 1973.
(Rural Health Care Alliance, southeastern Oklahoma and north central Texas)

586. Barn raising comes to health education. In-Serv. Training and Educ. 3:13-14,21-22,26, Aug. 1974.
(Regional Approach to Improved Service Through Education, west central Minnesota)

587. Blaine, R. A dream grows in Kansas. In-Serv. Training and Educ. 2:14-16, 18, June 1973.
(Annotation, 381)

588. Butler, G. D. HAS: a management tool for the small hospital. Hosp. Financ. Manage. 25:4-8, May 1971.

589. Communication lines tie nine rural hospitals into network. Mod. Hosp. 118:93-95, Apr. 1972.
(Annotation, 28)

590. Dunn, D. W., and Willitts, H. M. Through the strength of many. Hospitals, J.A.H.A. 48:99-100,104, Oct. 1, 1974.
(Annotation, 36)

591. Falck, V. T. GRO with continuing education. Tex. Med. 70:84-86, Sept. 1974.
(Texas Regional Medical Program, Project Grass Roots Organization)

592. Fifer, W. R., and Ellsworth, S. J. A shared medical audit program for small hospitals. Hosp. Med. Staff. 3:1-10, Oct. 1974.
(Annotation, 329)

593. Food handlers use phone for continuing education. Cross-Ref. 4:4-5, July 1974.
(Medical Products Systems, Inc., Bartlesville, OK)

594. Four small hospitals take a giant step. Chicago Med. 76:980, Nov. 17, 1973.
(Annotation, 108)

595. Fritz, J. T. Group purchasing: does it work in small hospitals? Hosp. Manage. 110:60-61, Nov. 1970.

596. Gelsinger, J. L. Dial L for lecture. In-Serv. Training and Educ. 3:8-10,12, Aug. 1974.
(Lakes Area Regional Medical Program, Inc., Telephone Lecture Network, Buffalo)

597. Grosjean, D. B. Data processing for smaller hospitals. Tex. Hosp. 26: 40,43, Sept. 1970.
(Texas Hospital Association. Shared Hospital Accounts Receivable System)

598. Healey, L. A., and Friedrich, P. Health Services Consortium: good neighbor policy. Group Pract. 24:19-21,28, Mar.-Apr. 1975.
(Health Services Consortium, Seattle area)

599. Health care institutions share educational services: rural hospitals join in Project "RAISE." Bull. Hosp. Educ. and Training. No. 14:1-4, Nov. 1970.
(Annotation, 395)

600. Hinson, J. W. Continuing education in a rural area. Supervisor Nurse. 4:29,32-33,36-37, Aug. 1973.
(Annotation, 397)

601. Jones, K. B. Shared social services in the Northwest. Hosp. Soc. Work Directors Bull. No. 37:3, Nov.-Dec. 1973.
(Annotation, 166)

602. Koontz, J. S., and Zylstra, R. L. Rural shared services--an experiment in cooperation for small hospitals. Hosp. Forum (Western). 15:11-12,24, Aug. 1972.
(Annotation, 168)

603. Laird, S. W. A shared dietitian consulting program. Hospitals, J.A.H.A. 47:75,78, Nov. 1, 1973.
(Annotation, 169)

604. LeBoutillier, P. SHIP: shared hospital in-service program. J. Continuing Educ. in Nurs. 3:31-33, July-Aug. 1972.
(southwest Minnesota)

605. Long, S. D. Two hospitals share administrative services. Hospitals, J.A.H.A. 48:121-122,175, Oct. 1, 1974.
(Shared Services System, Omaha, NE)

606. Matti, L. B. Rural hospitals in a multihospital system. In: Health Services Research Center. Multihospital Systems: An Evaluation, Pt. 4, Related Studies. Chicago: Health Services Research Center, 1975, pp. 69-98. Bibliography pp. 95-98.

607. Michael Jr., M. Networking for community hospital libraries. Biomedical Communications. 1:19,41-42, July 1973.
(Annotation, 324)

608. Phillips, D. F. Small urban hospital--a question of survival. Hospitals, J.A.H.A. 48:71-75, Oct. 1, 1974.

609. Picha, N. A study to determine the effectiveness of a shared (off-line) computer service in the management of accounts receivable in small Texas hospitals. Master's thesis, Baylor University, Waco, Texas, 1972. (Texas Hospital Association, Shared Hospital Accounts Receivable System)

610. Rosenbaum, J. E. Hospital-based versus shared computer services for a 126-bed hospital in a rural setting. Thesis, American College of Hospital Administrators, Chicago, 1973.
(Idaho)

611. Rosenberg, C. L. This 20-bed hospital has 500 specialists. Med. Econ. 47:160, June 8, 1970.

612. Ross Jr., A, and Boyle Jr., R. L. Urban-rural exchange programs. Hospitals, J.A.H.A. 46:55-59, July 16, 1972.
(Virginia Mason Hospital, Seattle)

613. Schnepple, G. R. Rural-urban hospital partnerships--a study of voluntary hospital regionalization. Master's thesis, University of California, Berkeley, 1973.
(Annotation, 467)

614. Seattle's consortium for education. Mod. Healthcare. 1:120-121, Apr. 1974.
(Health Services Consortium, western Washington)

615. Simmons, J. C. Social work program meets hospitals' unique needs. Hospitals, J.A.H.A. 49:64-66, Feb. 16, 1975.
(Hahnemann Medical College and Hospital, Philadelphia)

616. Small hospitals get help in a big state. Mod. Hosp. 115:110-112, Sept. 1970.
(Texas Hospital Association, Shared Management Systems Program and Medical Information, Inc.)

617. Spitzer, W. The small general hospital: problems and solutions. Milbank Memorial Fund Q. 48:413-447, Oct. 1970.

618. Twelve institutions form educational corporation. Cross-Ref. 2:1-4, Dec. 1972.
(Association for Continuing Education, Great Bend, KS area)

RELATED PERTINENT BASICS

Most U.S. hospitals are members of the American Hospital Association. Among other things, the Association provides its membership with various guidelines and technical manuals. These documents are well accepted and in general use. The small listing here is intended to draw the reader's attention to some manuals that are basic to hospital operations and that give the hospitals' perspective on certain issues.

619. American Hospital Association. Budgeting Procedures for Hospitals. Chicago: AHA, 1971.

This manual presents the necessary procedures for developing a sound annual operating budget and supporting plans for cash management and capital asset acquisition. It includes detailed information on: the functions, objectives, and prerequisites of budgeting; the budgeting process, including work organization, budget coordination, and the selection of a budget period; statistical budget preparation, including the collection and reporting of data concerning the expected volume and scope of activities; expense budget preparation, including the conversion of work units into expected dollars of expense; revenue budget preparation, with revenue detailed according to the time period in which it will be earned; capital budget preparation, including the provision of formal criteria to be used for project evaluation; cash budget preparation, including estimation of cash receipts and disbursements and projections of estimated cash balances for the selected time interval; and budget-related reporting mechanisms, including financial statements prepared for submission as part of master budget documents, and periodic reports, including cost reporting to department management and financial reporting to top management.

620. ______. Capital Financing for Hospitals. Chicago: AHA, 1974.

This reference manual is intended for use by administrators of hospitals of any size or ownership base. It includes chapters on: capital management, including the nature of capital need, the functions of capital management, and the management of special purpose and endowment funds; sources and characteristics of permanent capital, including contributed capital, federal assistance programs, and internally generated capital; characteristics of debt financing, including construction financing, debt capacity, restrictions, and costs of borrowing; and methods of debt financing, including FHA-insured mortgages, taxable bonds, tax-exempt bonds, private placement, the borrowing process, and determination of requirements.

621. ______. Chart of Accounts for Hospitals. Rev. ed. Chicago: AHA, 1973.

This manual, which is the basis for other manuals in the Financial Management Series, is a guide for establishing a uniform system for classification of accounts in the hospital field. A discussion of the prerequisites for effective management and an introduction to basic fund accounting concepts and conventions precede a detailed outline for a recommended chart of accounts. The chart is designed to permit expansion or contraction to meet specific requirements while maintaining a basic uniformity for recording and reporting financial information. Separate chapters include detailed discussions of the nature and content of each kind of account described--balance sheet accounts, revenue accounts, and expense accounts. The final chapter considers the determination of the estimated useful lives of depreciable assets used in the operation of a hospital. A number of checklists intended for use as guides to such estimates are provided.

622. ______. Cost Finding and Rate Setting for Hospitals. Chicago: AHA, 1968.

This manual presents basic concepts and procedures of cost finding and rate setting which can be adjusted to fit specific situations in hospitals of any size or service mix. Cost finding is defined and its objectives and prerequisites are noted. Factors influencing costs and interpretation of these factors are discussed, bases for allocating costs are elaborated, and three methods of cost finding are outlined. An in-depth, step-by-step illustration of cost finding procedures and samples of statistical and accounting data are provided. Comparison of cost finding methods, statistical allocation bases for various functions and operations, and the use of special cost studies and other statistical studies are discussed. Rate setting usually follows policy decisions which may revolve around inflation and technological improvements, educational costs, research programs, free services, or retirement of loans or reserve funds. Policy decisions which may be involved in developing a rate structure are listed and the computation of specific rates for operating rooms, laboratories, pharmacy surcharges, and patient rooms is illustrated.

623. ______. Internal Control and Internal Auditing for Hospitals. Chicago: AHA, 1969.

This reference manual covers virtually every area of hospital operation in which internal audit should be applied. It discusses the need for internal control and auditing, as well as the basic elements involved in internal control: a plan or organization establishing clear lines of authority and responsibility; adequate authorization and record procedures; sound practices to be followed in each of the organizational departments; and adequate personnel. Separate chapters are devoted to the applicability and implementation of internal audit in the areas of purchasing and inventories, payrolls, cash disbursements, revenues and receivables, plant and equipment, investments, and cash receipts. Checklists for reviewing internal control in each of these areas are provided.

624. ______. Quality Assurance Program for Medical Care in the Hospital. Chicago: AHA, 1972.

This guide is intended to assist boards of trustees, administrators, and medical staff in developing a quality assurance program for medical services. The proposed five-step methodology is based on development of criteria, description of actual practice, judgment or evaluation, corrective action, and reassessment. The manual also suggests linkages of a hospital quality assurance program with external parallel programs, examines the legal aspects of a hospital quality assurance program, and deals with patient education.

AUTHOR INDEX

References in this bibliography are indexed by main (first) author only. Anonymous works are listed by title in a separate section following the main author index. Underlined citation numbers indicate that the entry is annotated.

Section title	Entry numbers
General and Overview Topics	
Semantics: definitions and classifications	1-11
Guidelines and General	12-74
Surveys	75-81
Conference Proceedings	82-85
Bibliographies	86-89
Specific Services and Facilities	
Medical/Clinical	90-149
Manpower	150-194
Administrative/Supportive	
Accounting and Information Systems	195-245
Central Service	246-249
Dietary	250-262
Equipment	263-264
Laundry	265-323
Library	324-327
Medical Audit and Medical Records	328-330
Purchasing	331-377
Education and Training	378-422
Disciplinary Studies	
Tax and Legal	423-438
Organization Behavior	439-476
Economics	477-500
Process-Oriented Studies	
Planning	501-530
Feasibility	531-550
Implementation	551-569
Evaluation	570-583
Rural and Small Hospitals	584-618
Related Pertinent Basics	619-624

Aiken, M. 439
American College of Hospital Administrators 13
American Hospital Association 14; 15; 75; 501; 619; 620; 621; 622; 623; 624
Ammer, D. S. 331
Anderson, H. L. 196
Andrew, W. F. 197; 198; 199; 502; 531; 532; 533
ARA Hospital Food Management 477
Ardell, D. B. 503
Aronson, S. M. 90
Astolfi, A. A. 76
Bailey, D. R. 1; 17
Bailey, D. T. 250
Baligh, H. H. 478
Balsley, M. B. 251; 334
Banner, M. T. 151; 252; 336
Bartfield, I. A. 266
Barton, J. 337
Bash, R. R. 267; 504
Bastnagel, Sister G. 91
Bauer, K. G. 18
Baumgartner Jr., R. P. 92
Bennis, W. 440
Berki, S. E. 479
Bernstein, A. H. 424
Berry Jr., R. E. 480; 481
Bickers, C. R. 200; 552
Bickley, H. C. 380
Bieter, J. T. 19; 441
Biggs, E. L. 268, 534
Bilinsky, R. T. 93
Blaine, R. 381; 587
Blau, P. M. 442
Bloom, B. S. 94; 505
Blum, H. L. 506
Blumberg, M. S. 20; 77; 86
Boone, C. C. 21
Boston, J. R. 23
Box, R. H. 95
Brawley, Sister A. 338
Brewer, G. M. 201
Brissendon, A. 96
Broomall, C. L. 202; 507
Brousseau, T. G. 270
Brown, B. D. 253
Brown, M. H. 24
Brown, R. E. 82; 482
Brown Jr., M. 483
Bunker, E. 328
Burkhalter, B. R. 152
Burkholder, D. F. 97
Butler, G. D. 203; 588
Cabot, E. E. 339
Caldwell, A. B. 153
Campbell, D. T. 570
Cardwell, H. M. 204
Carlquist, J. H. 98
Carr, W. M. 484
Carter, B. J. 205
Catania, J. J. 271; 508
Cathey, J. 272
Chowins Jr., R. D. 443
Church, S. T. 275; 276; 277; 509; 510
Cihlar, C. 444
Clark, W. E. 2; 3
Clay, C. C. 100
Coldewey, G. T. 278; 425
Colling, R. L. 154
Conway, B. 384
Cook, H. F. 4; 29
Cooperider, N. L. 283
Cotner, W. 209
Crevasse, L. E. 103
Crews, J. C. 445
Danco, W. 210; 211
Danks, R. T. 286
Davis, R. N. 5; 30
Davis, R. R. 342; 343
Dean, E. J. 263
Deane Jr., A. S. 31
DeHoff, J. B. 32
DeView, L. 104
DeVries, R. A. 6; 33
Dildy, D. B. 156
Dobson, R. J. 287
Donaher Jr., J. C. 105
Doody, M. F. 34; 35; 553
Downey, G. W. 157
Dunn, D. W. 36; 590
Eberhard, M. J. 158
Edwards, S. A. 37
Epperson, R. L. 159
Evan, W. M. 446
Evans, V. R. 388
Falck, V. T. 389; 591
Farevaag, L. H. 344; 345
Feldstein, M. S. 485; 486
Feldstein, P. 487
Fergus, R. M. 212
Field, F. 288

Fifer, W. R. 329; 555; 592
Fischer Jr., E. F. 107
Foster, C. L. 213
Franklin, C. L. 447; 511
Freedman, T. J. 109
Freeman, J. R. 39; 512
Friedland, M. 40
Fritz, J. T. 347; 595
Gal, K. 110; 513
Garry, R. 290
Gatzke, H. K. 391
Gelsinger, J. L. 392; 596
Georgopoulos, B. S. 448; 449
Gerber, N. M. 80
Giunta, A. A. 348
Gnau, T. R. 111
Goudreau, W. J. 41; 556
Gouveia, W. A. 214
Gregorio, Sister M. P. 112
Griffith, J. R. 488
Grom, H. S. 215
Grosjean, D. B. 216, 597
Hahn, C. K. 353; 450
Haidinger, T. P. 217
Hain, R. F. 113
Hammon, G. L. 218; 535
Hanlon, J. J. 114
Harris, S. 489
Harter, T. R. 264; 536
Hartman Jr., J. D. 219
Hartshorn, T. 42
Hassan Jr., W. E. 115
Healey, L. A. 161; 394; 598
Health Services Research Center 7; 44; 87; 116; 221; 514; 515; 537; 538; 557; 558; 571; 572
Hefty, T. R. 490
Hendee, W. R. 396
Herring, Sister C. 162
Hess, A. E. 291
Heydebrand, W. V. 451
Hinson, J. W. 163; 397; 600
Hogan, H. H. 354
Holland, D. C. 8; 429
Holland, S. E. 355
Holmgren, J. H. 356; 357; 358
Horn, J. R. 292
Horty, J. F. 430
Hospital Association of New York State 539; 540; 541; 559
Hospital Financial Management Association 222
Hospital Research and Educational Trust 399; 400; 573
Howell, D. L. 402; 516; 560
Huey, J. P. 223; 575
Husted, F. L. 403
Hutchings, B. B. 256
Hutton, D. H. 360; 517; 542
Jappy, W. C. 293; 518
Johnson, C. S. 257
Johnson, R. L. 452
Jonassen, J. O. 247
Jones, K. B. 166; 404; 601
Jones, L. S. 167
Judge, D. 119
Katz, S. H. 120; 519
Kelly, J. C. 294
Kenley, G. 225
Keyes, F. 405; 520
Killenberg, G. A. 295; 561
King, P. J. 406; 407
Klarman, H. E. 491
Koontz, J. S. 168; 602
Kratz, R. L. 121
Kretschmar, C. G. 296; 521
Laird, S. W. 169; 258; 603
Lane, M. M. 362
Latimer, B. W. 170
Lauzen, E. 47; 248; 298
Lave, J. R. 492; 493; 494
Laverty, R. E. 522
LeBoutillier, P. 171; 408; 604
Lee, M. L. 495; 496
Lehman, A. 226; 543; 576
Leighton, E. 227
Levinson, P. 363
Lewis, H. L. 48; 409
Lewis, P. M. 228
Litman, T. J. 577
Lombardi Jr., T. 49
Long, S. D. 50; 172; 299; 364; 605
Ludwig, P. E. 173; 578
Lusk, E. J. 51
McCracken, R. C. 122
McGrath, J. H. 453; 454
McSwain, B. G. 52
Malm, H. 175; 229
Manke, T. 431
Mann, J. K. 497
Manson, J. J. 523
March, J. 455
Maroudas, C. D. 365

Martin, J. C. 83; 579
Massachusetts Hospital Association 53; 125; 544
Matti, L. B. 606
Melick, B. 410
Melton, H. W. 432
Menzel, R. 300
Michael Jr., M. 324; 607
Midtown Hospital Association 84
Mills, J. 367
Moore, D. L. 231
Morse, E. E. 126
Mundt, E. L. 411; 412
Mungerson, G. W. 127
Munshaw, P. K. 413
Musser, M. J. 54
Nelson, P. E. 368
Neuhauser, D. 456; 457
Newhouse, J. P. 498
Norgren, W. 129; 524
O'Donovan, T. R. 130
Oehnel, E. 303; 525
O'Neil, D. E. 179
Owen, J. W. 57; 371
Parker, B. 180
Pauly, M. V. 499
Payne, T. T. 58
Pearson, R. E. 132; 181
Perla, G. G. 232; 545
Perrine, G. 415
Perrow, C. 458
Pertl, D. 304; 305; 562
Peters, D. S. 133
Phillips, D. F. 608
Picha, N. 233; 526; 609
Pick, O. M. 306
Pierce, P. M. 307
Platou, C. N. 60
Project RAISE 61; 527; 563
Provost, G. P. 134
Quay, J. G. 459
Rankin, J. W. 234
Regan, W. A. 460
Reising, J. H. 330; 546
Rice, R. 500
Ritter, C. A. 135
Robinson, W. M. M. 136
Rode III, E. A. 416
Rogers, E. M. 461
Roos, N. P. 462
Rosenbaum, J. E. 528; 547; 610
Rosenberg, C. L. 137; 138; 182; 183; 611
Rosner, M. M. 463
Ross Jr., A. 62; 184; 249; 417; 433; 564; 612
Rothman, R. A. 464
Ryan, J. P. 309
Sabichi, F. D. 9; 63
Scardino, V. 139; 580
Schein, E. H. 465
Schermerhorn Jr., J. R. 466
Schilling, G. W. 64; 565
Schmidt, A. 235
Schnepple, G. R. 467; 613
Schreck, I. E. 372
Schulberg, H. C. 581
Schwartz, M. D. 236
Schweid, P. 310; 311; 566
Shimp, I. G. 468
Shorr, A. S. 314
Simmons, B. A. 373
Simmons, J. C. 187; 419; 615
Simon, H. A. 469
Simon, S. R. 315
Singleton, R. 238
Sisters of the Third Order of St. Francis 239
Skarupa, J. A. 567
Smejda, H. A. 68; 529; 548; 568
Smith, S. D. 240
Snider, A. J. 143
Soder, E. 241; 549
Soltis, R. J. 470
Spitzer, W. 617
Starkweather, D. B. 10; 11; 67; 88; 471
Stolfi, J. E. 69
Strathy, R. D. 472
Suchman, E. A. 582
Tarver, B. M. 89
Taylor, R. A. 318; 569
Tennessee Hospital Association 71
Terenzio, J. V. 144; 473
Thompson, J. 474
Thorpe, L. R. 243; 530
Tibbitts, S. J. 72
Tinnermon, E. 376
Tolbert, J. H. 190
Tripp, L. 191; 261
Turner, W. W. 192
Tuthill, J. P. 434

Ulrich, W. 244
Vaillancourt, P. M. 326
Vaun, W. S. 422
Veney, J. E. 475
Wagner, C. J. 74
Warm, B. 322
Weimer, W. C. 145; 583
West, J. W. 146; 147; 194
West Suburban Hospital Association 327
White, P. E. 85; 476
Widman, P. E. 377
Williams, L. 148
Winfield, D. 245

TITLE INDEX
ANONYMOUS WORKS

Administrator loaned to rural hospital 150; 584
Advice on computer networks: go ahead, but find out where to 195
An alliance for sharing 12; 378; 585
American Hospital Association group to recommend voluntary chains 16
Answers to questions involving tax exempt status 265; 423
Appalachian Regional Hospitals central purchasing service 332
Arizona hospitals form group purchasing cooperative 333
Baltimore hospitals cut costs through joint purchasing 335
Barn raising comes to health education 379; 551; 586
The birth of a central 269
Borgess and Bronson hospitals make joint effort to increase health care services 22
Brooklyn hospitals share training 382
Cardinal Industrial Laundry Corporation v. Industrial Development Authority of the City of Richmond, Virginia, and Virginia Hospital Laundry, Inc. 438
Central laundries can save by adding volume and control 273
Central Pennsylvania consortium seeks to fill gaps, avoid duplication 25
Change of structure, philosophy doubles group purchasing volume 340
Chicago: shared laundry, purchasing gather steam 26; 274; 341
Chicago hospital cuts EDP costs 50-66 percent through time-sharing 206
Citizens League urges hospitals to share services--and they do 27; 99
College of radiology offers consultation service 101
Commercial/in-plant battle brewing in Milwaukee 279; 426
Commercial laundries block construction of central 280; 427
Communication lines tie nine rural hospitals into network 28; 383; 589
Community kitchen 254
Computer helps hospitals maintain records on dangerous drugs 207
Computer system will store psychiatric patient data 208
Computerized radiation system links hospitals 102
Co-op laundry set to produce 14,000,000 pounds per year 281
Cooperative central laundries form their own association 286
A cooperative social work services for health care facilities in Hawaii 155
Court denies revenue bonds for shared laundry service 284; 428
Crosswise workflow speeds linens through central facility 285
Delaware Valley hospitals interested in shared services 78
Denver meeting told: hospitals sharing everything--including the doctors 79
Eight Michigan hospitals form audio-visual cooperative 385
Eleven hospital cooperative pools training 386

Emergency medical services 106
Evaluation report shows that shared training can benefit hospitals and employees 387; 554
First quarter 1972 purchasing volume reaches record peak 346
Food handlers use phone for continuing education 390; 593
Four Minneapolis hospitals to operate common laundry 289
Four New York hospital presidents form consortium 38
Four small hospitals take a giant step 108; 594
Good neighbors work together 393
Group buying--bonanza or disaster for medical products distributors 349
Group purchasing 350
Group purchasing is big and getting bigger, but slowly 351
Group purchasing units hit new peaks in volume, savings 352
Gustafson heads two hospitals 160
Health care data service keeps records of clients' patients 220
Health care institutions share educational services 395; 599
Health resources association seeks synergy in services 43
Hospital Association of New York State program for shared services 45
Hospital electrical safety 164
Hospital group makes effective use of TV educational system 398
Hospital Purchasing Service of Michigan v. City of Hastings 437
Hospital Research and Educational Trust to develop methods to evaluate shared services 574
Hospitals buy downtown buildings to house central services 246
Hospitals form purchasing co-op 359
The hot line to dietary 401
Houston hospitals plan superkitchen 255
Hurst-Euless-Bedford Hospital associates with Harris Hospital 165
Information systems threatened 224
Institutions in the Detroit Medical Center agree to shared medical services plan 117
Joint laboratory makes specialized service possible 118
Kansas City area hospitals form group purchasing service to combat costs 46; 361
Largest non-profit hospital laundry will service 12 Newark area institutions 297
Lutheran Hospital Society to manage Saddleback Hospital 174
Management may be the best place to begin saving 176
Medical Group Management Association group purchasing plan 366
Medical Information: Texas Hospital Association shared computer program 230
Member hospitals surveyed regarding shared services 81
Metamorphosis of a satellite health center 123
Missouri establishes bone tumor center 124
The multiple hospital is the only way to go 177
New corporation to provide shared hospital services 301
New federation of hospitals created for Cleveland area 55
New Jersey county hospital joins group purchasing program 369
New Jersey establishes statewide blood exchange 128
New role for hospital libraries: community health learning centers 325; 414
Nine-year progress 302
Northwest hospitals cooperate in innovative cost-savings plan 178
Oakland hospitals save with shared services 56

Osteopathic Group Purchasing Program expands services 370
Passavant, Wesley sharing medical staffs 131
Performing major surgery on hospital costs 59
Pounds per operator hour up, workforce down 308
Seattle's consortium for education 185; 418; 614
Shared computer system introduced 237
Shared food services (*Hospitals, J.A.H.A.*) 259
Shared food services (*Southern Hosp.*) 260
Shared laundries form association 312
Shared medical service: saving or suicide? 140
Shared services program approved 65
Shared system starts in Oregon 313
Sharing electron volts in Chicago 141
Sharing enters field of biomedical engineering 186
Sharing services on the obstetrics ward 142
Six hospitals to share their resources, but not medical staffs 66; 374
Sixteen Chicago hospitals form shared service laundry 316
Small hospitals get help in a big state 188; 616
Standardization, contract buying cut costs $250,000 375
Successful multi-unit systems show how shared services can help raise productivity, lower costs 70
Survey shows a mixed pattern of computer problems and use 242
Take a tour of a central 317
Tennessee agencies develop hospital cost control program 189
Training goes underground 420
Tri-level production aids efficiency 319
Twelve institutions form educational corporation 421; 618
Twenty hospitals form group to establish shared services 73; 320
Two New Jersey hospitals share food service director 193; 262
United Hospital Services, Inc. v. United States of America 436
Virginia shared laundry service target of antitrust suits 321; 435
Which type of laundry service is best for you? 323; 550
Wyoming hospital linked to Colorado computer 149

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